DISARMAMENT

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Strengthening the NPT and the Nuclear Non-Proliferation Regime

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Strengthening the NPT and the Nuclear Non-Proliferation Regime

The Non-Proliferation Outlook

Hans Blix

Nuclear weapons have haunted two generations. Since their first use on Hiroshima and Nagasaki, these instruments of mass destruction have paradoxically contributed to global strategic stability, but at an enormous cost in terms of both money and human anguish. The fear generated by these weapons has helped to ensure that they have never again been used. However, it did not stop the spread of nuclear weapons to additional countries. With the major transformations of the world order of the last few years, there is reason to hope that we can construct a more secure world out from under the shadow of nuclear destruction. This will be the challenge of the remainder of this decade and the challenge facing the parties to the Treaty on the Non-Proliferation of Nuclear Weapons, when they meet in 1995 to review the twenty-five year history of the Treaty and to consider its extension.

Alongside the nuclear weapons that have so preoccupied politicians, strategists and diplomats, the peaceful uses of

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nuclear energy have grown in importance for the world community at large. Over the last four decades, some of the most talented scientific and engineering minds have turned nuclear power into a significant source of energy. That growth, however, has not been, and is not, smooth and straight. We now know only too well that it was fanciful to imagine—as scientists once did—that nuclear energy would be too cheap to be worth metering. Nevertheless it has been proven that it can be a competitively priced and environmentally benign source of energy. Its future role will depend on how soon these qualities will prevail over the present perceptions of the risks of nuclear power, including the spectre of the tragic Chernobyl accident. This in turn depends on the success of the global nuclear industry in maintaining in the years to come a record of nuclear operation without significant radioactive releases to the environment.

Nuclear science and technology have found a place in almost all areas of human activity, from the use of carbon dating in archeology to the use of radiation treatment in the cure of cancer and the production of new strains of crops to assist in the battle to feed a growing world population. These techniques are employed widely in both the developed and developing world, and there is a need to ensure that these benefits of the peaceful uses of nuclear energy remain available to the international community.

Arrangements that ensure peaceful use are a precondition for the wide use of nuclear applications and of nuclear energy and for commercial trading in nuclear materials and technology.

Non-proliferation and the international community

As we prepare for the 1995 NPT Conference, it is worth recalling the efforts of the last 50 years to reach an

international consensus on the exclusively peaceful use of nuclear energy. The early optimism and idealism that characterized the Baruch plan proved unrealistic. The antagonistic world immediately following the Second World War did not provide a fertile environment for international control of all nuclear material and facilities, nor has the world today reached a level of cooperation which would permit such a scheme.

The Atoms for Peace plan declared by President Eisenhower in 1953 was certainly less radical than the Baruch plan, but still overly optimistic for its time in proposing an international agency to remove fissionable material from the stockpiles of the three nuclear-weapon States then existing and to distribute it to others for peaceful use. It is nevertheless to the Atoms for Peace plan that we owe a central part of the non-proliferation strategy of the last 40 years, namely the sharing of peaceful nuclear technology in return for verified pledges of peaceful use.

This dual approach characterized the Statute of IAEA, adopted in 1956, with its objectives of enlarging the contributions of atomic energy on the one hand and of ensuring as far as possible that the transfer of technology will not serve any military purpose. This approach recognized that a policy of denial of technology would almost certainly have provided an incentive for States to develop indigenously enrichment and nuclear power technology without any non-proliferation commitments. The provisions of the Statute which allow IAEA to "acquire or establish any facilities, plant and equipment" in the nuclear field (article III:A:7) or to "establish control over the use of special fissionable materials received by the Agency, in order to ensure that these materials are used only for peaceful purposes" (article III:B:2) are echoes of the early internationalism. They have not been used so far, but might become practicable if we continue to move ambitiously towards a nuclear-weapon-free world.

President Kennedy's gloomy vision of a world with dozens of nuclear-weapon States assumed that States would go ahead and make or acquire nuclear weapons if they reached the technical level which enabled them to do so. This prospect was avoided as a result of the tenacious work which has constructed what is termed today "the non-proliferation regime". A central element of that regime is the NPT, which was negotiated a little more than ten years after the establishment of IAEA and which incorporates the safeguards system of IAEA as its mechanism for international verification of non-proliferation commitments. The NPT, which came into force in 1970, has become the most widely accepted arms control instrument, with over 155 States party to it. A central element of the NPT compact parallels the basic principles in the Statute of IAEA: the facilitation of an exchange of nuclear technology among the States pledging themselves to non-proliferation. But the NPT represented a quantum leap forward with the requirement that the condition of peaceful use be applied not just to the specific material or equipment supplied, but to all nuclear installations and material in the State—indigenously constructed or produced, or imported. States committing themselves to non-proliferation were offered the transfer of technology and an undertaking by the nuclear-weapon States "to pursue negotiations in good faith" on cessation of the nuclear arms race and complete disarmament. With this development, the non-proliferation regime graduated from conditions attached to the export of individual items to a comprehensive non-proliferation policy comprising a number of mutually reinforcing elements.

Underlying the non-proliferation regime is the understanding that the major incentive for acquiring nuclear weapons arises from national security concerns. To eliminate the incentive, the concerns must be allayed. In the case of many countries, these concerns are met through the nuclear umbrellas offered by alliances. Other countries, like Sweden

and Switzerland, concluded that it might be even more dangerous to have nuclear weapons than not to have them, and renounced such weapons out of fear of being subject to pre-emptive nuclear strikes in a crisis. Other countries have been given a measure of assurance by the declarations made by nuclear-weapon States in the Security Council, promising non-use of nuclear weapons against non-nuclear-weapon States. To the vast majority of developing countries in 1970, nuclear weapons were either not a realistic security tool or remained out of reach of their technical capabilities.

There has sometimes been a tendency to describe comprehensive IAEA safeguards as the key barrier to proliferation. While I would be the last person to underestimate the role of the IAEA safeguards system, I submit that it is important to recognize that the creation and maintenance of political and security conditions which are conducive to non-proliferation are the most crucial elements in preventing proliferation. Safeguards are not in themselves an incentive to non-proliferation, they are rather the verification tool of the non-proliferation regime. However, through the confidence which effective verification creates, they help to eliminate security concerns which might otherwise arise about neighbours or other States perceived as potential adversaries.

It must be remembered, however, that if a State begins to perceive a strong security need for nuclear weapons, its formal adherence to the NPT and the application of full-scope safeguards may not prevent it either from withdrawing from the NPT or from trying secretly to develop or acquire the weapons. One must therefore be conscious of the importance of maintaining the political-security disincentive to nuclear weapons acquisition. The main reason for optimism about non-proliferation today lies precisely in the reduced global tensions and the consequent reduction in political-security incentives to acquire nuclear weapons. With the drastically reduced risk of a general nuclear conflagration and with

accelerating nuclear disarmament, there is no general political-security incentive for non-nuclear-weapon States to abandon their status. This perception may well have helped Argentina and Brazil to renounce any nuclear weapon option in favour of non-proliferation pledges. South Africa's decision to adhere to the NPT and to terminate its own weapons programme evidently is linked to the writing off of any communist-inspired threats.

We can also see how the remaining principal proliferation problems are linked to perceived political-security considerations—in the Middle East, on the Indian subcontinent and on the Korean peninsula. It is evident therefore that the main effort to prevent further proliferation and to achieve a roll back, as in South Africa, must be made in the political-security sphere through peace, *détente* and security guarantees.

Against this background, the 1995 NPT Conference will review the implementation of the Treaty as it has done at its four previous Review Conferences. Unlike the other Review Conferences, however, a decision must be taken in 1995 on the extension of the Treaty. This adds significantly to the importance of the Conference and of perceptions of the value of the Treaty to international security. The 1990 Review Conference failed to agree on a final declaration; however, the Conference did develop a number of ideas and proposals relevant to safeguards and nuclear technical cooperation, the two areas of particular relevance to IAEA. These issues need to be revisited against the background of the dramatic changes in the international scene since 1990.

Nuclear safeguards: the NPT verification system

At the 1990 Review Conference the parties to the NPT affirmed among other things their determination to

strengthen further the barriers against the proliferation of nuclear weapons; called for universal adherence to the NPT; urged continued improvements in the effectiveness and efficiency of safeguards; and urged IAEA not to hesitate to take full advantage of its rights, including the use of special inspections as provided for in safeguards agreements. Although not formally adopted by the Conference, these recommendations have been behind some of IAEA's work in the last three years. Moreover, since 1990 the NPT has been embraced by the remaining two declared nuclear-weapon States, China and France, and by a number of non-nuclear-weapon States, including South Africa. At the same time the dissolution of the Soviet Union resulted in a number of additional States, some with significant nuclear facilities. Of these, some have already joined the NPT and others are committed to doing so.

The effort to strengthen safeguards proposed by the 1990 Conference was given even greater importance with the discovery of Iraq's clandestine nuclear programme in early 1991—the first occasion on which a party to the NPT had been discovered to have developed secretly and outside safeguards the elements of a nuclear weapons programme based on uranium enrichment technology.

The various steps taken or proposed to strengthen safeguards must be studied against the background of the system which has evolved over the last 20 years. The technical objective of safeguards verification has been stated to be to "deter from diversion by risk of detection". This formulation creates the impression that the system is a genuine barrier, deterring proliferation. It is true, of course, that a State which might be tempted to develop nuclear weapons, after having renounced them and having accepted safeguards, might be deterred because it would know that the reactions of other States would be very strong if the safeguards system revealed diversion. In most cases, however, the function of the system

is to provide a higher level of confidence than a State itself can give through its own national declarations that its material and installations under safeguards are used only for peaceful purposes.

The safeguards verification system operated by IAEA costs annually some $65 million and employs some 500 people, of whom some 200 are inspectors. It is essentially an audit system involving independent verification through measurement and observation. As such, safeguards operated under the NPT focus on declared inventories of nuclear material. Their basic features are material accountancy supplemented by direct surveillance of nuclear material within monitored and confined areas. This focus on nuclear material—as the crucial material for weapons production—emanated from a wish to minimize intrusion in legitimate peaceful nuclear activities and guard against industrial espionage by inspectors. Regrettably, the approach does somewhat limit the vision of inspectors. A renewed emphasis on qualitative aspects of inspection activity, combined with greater freedom of movement, could contribute to transparency and increased confidence.

Another important aspect of the safeguards system is its capacity to detect. It is geared to detect with a high degree of confidence diversion of so-called "significant quantities" of nuclear material—quantities significant for weapons—some 8 kg of plutonium or 25 kg of highly-enriched uranium. Safeguards are capable of detecting smaller diversions, but generally not gram quantities. This is a consciously introduced limitation. In the cases of Iraq and Romania, we must note that gram quantities of plutonium were separated without being detected by safeguards. If it were at all possible to design— and it probably is not—a fine-mesh verification system that would detect very small quantities of diversion, it would be unacceptably costly. Moreover, it could give rise to a disturbingly high number of false alarms.

The Iraq experience made it clear that the safeguards system as practised had been limited to declared programmes. This limitation has been well understood by Governments, but it was the cause of a lot of criticism after the revelation of the secret programme in Iraq. The Agency was criticized not only for ignoring the existence and locations of the clandestine facilities of the Iraqi enrichment programme, but was also accused by some of giving Iraq a "clean bill of health" before the war in the Persian Gulf. This is a misreading of what the IAEA said. The Agency only reported that "material under safeguards" was adequately accounted for. It also deserves to be noted that, contrary to the fears of some, Iraq did not divert any of this material to its weapon programme—presumably because it was aware that any diversion would have been reported by the Agency and raised an alarm. In this sense safeguards acted as a deterrent. Instead, Iraq embarked on a vast and expensive effort itself to produce enriched uranium.

The revelations in Iraq have raised the question whether the increasing number of adherents to the NPT has masked increasing disregard for the obligations of the Treaty. As a result, the demands on the safeguards system have increased. As was foreshadowed by the Fourth NPT Review Conference, assurance is now sought of the non-existence of undeclared material and facilities. With the political momentum created by the shock of Iraq, the Agency's Board of Governors and Secretariat have taken a number of steps designed to enhance the ability to uncover non-declared nuclear installations and material. The steps involved envisage three types of access: access to information, access to sites and access to the Security Council.

The most crucial element for discovering secret nuclear activities is access to information. If the State accepting safeguards withholds information about some nuclear activities, the information must come from somewhere else. International inspectors cannot roam vast terri-

tories in a random search for secret installations or hidden material. They must be directed to specific places and installations, as they were in Iraq with the help of information obtained through defectors and satellites. IAEA has neither satellites nor its own intelligence sources. However, it amasses information from its overall verification activities and, in recent times, additional information from member States about exports and imports of nuclear material and equipment. The Agency seeks also to extract clues from an analysis of media and other open sources and, since Iraq, it receives some information which member States have obtained through national means, such as satellites. Some member States have not been comfortable with the idea that the Agency might receive "intelligence" information. In my view, the Agency cannot ignore relevant information from whatever source it may come. At the same time, however, in view of the existence of much disinformation and erroneous information, the Agency must critically examine all information available to it before making use of it.

Secondly, there must be a right of access to sites about which relevant information has been obtained. In the case of Iraq, that right was founded upon an exchange of letters between Iraq and the United Nations and IAEA following the cease-fire and the adoption of Security Council resolution 687 (1991). For NPT-type safeguards, IAEA is now stressing its right contained in NPT safeguards agreements to undertake "special inspections". The Agency has asserted that right in the DPRK. The question has been asked why the Agency had not asserted a right of special inspection of a non-declared location prior to the case of the DPRK. The simple answer is that the Agency was never in possession of any information about non-declared sites meriting such inspection.

Thirdly, where access to information is assured but access to sites is not forthcoming, access to the Security Council assumes particular importance. The relationship

agreement between the United Nations and the Agency provides for prompt interaction between the two organizations, including the Security Council. The Agency is obliged to refer cases of non-compliance with a safeguards agreement to the Security Council, which may then decide to take enforcement action. In the Gulf War and its aftermath, the Security Council's use of its power as the primary repository of enforcement action in the United Nations system resulted, *inter alia*, in Iraq having to concede far-reaching rights of inspection to IAEA and to accept the dismantling of its programme related to nuclear weapons and the production of weapons-usable material.

It can certainly not be taken for granted that the Security Council will marshal substantial military might in every case which appears to involve nuclear proliferation. However, we can be sure that the Council will be very firm in taking measures in the event of breaches of non-proliferation agreements. The Security Council's Summit statement of 31 January 1992 emphasized not only the integral role of fully effective IAEA safeguards in implementing the NPT, but also the Council's readiness to take "appropriate measures in the case of any violations notified to them by the IAEA". The Council is acutely conscious of the risks inherent in proliferation, and of the need for Agency safeguards to be capable of uncovering any breaches or concealment with a high degree of probability. Indeed, existing legal instruments aimed at ensuring exclusively peaceful uses of nuclear energy, the NPT, the Tlatelolco and Rarotonga Treaties, and a range of bilateral agreements require IAEA safeguards. The issue is not "either" the IAEA "or" the Council. Events have shown that both may need to be involved.

In Iraq, defeated in war, the rights of the inspectors under resolution 687 (1991) and the exchange of letters with Iraq are almost unlimited. In the DPRK, they are laid down in a standard NPT safeguards agreement. But the case of the

DPRK demonstrates the active use of some of the enhanced safeguards verification arrangements. For example, advanced methods of chemical analysis of material from inspected installations as well as satellite imagery have provided much relevant information. In addition, when requests to visit sites and to obtain additional information were turned down, IAEA requested access to such sites and information by special inspection, as provided for in the safeguards agreement. And in the last resort, the matter was referred to the Security Council, the authority which has to ensure access for verification, where access is not willingly granted.

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Despite progress since 1990, a number of improvements in IAEA safeguards still need to be made. The system was designed some 30 years ago as the world's first on-site inspection system. States have since then become more accustomed to confidence-building measures in the form of international inspection. The long-negotiated chemical weapons Convention contains some features, notably regarding the practicalities of access, which appear to be advances over the model nuclear safeguards agreement under the NPT. Such features could be adapted to IAEA safeguards. There is also room for Governments to agree on greater degrees of nuclear transparency by adding new features to the safeguards system, such as fuller reporting about their nuclear programmes, wider access of inspectors to installations, and perhaps acceptance of so-called environmental monitoring, including the taking of samples of soil, water or air for radiological analysis.

The criticism voiced by a handful of writers of the safeguards inspections to the effect that they are sleepy and ineffective stands in sharp contrast to the praise expressed by

Governments. Perhaps this criticism is based on a lack of understanding that a system that is to verify a vast number of installations around the world must have some routines, some log sheet, some order. But it remains important at the same time to maintain the curiosity and alertness of the inspector, to fully use the human resource that he or she represents.

Thus, safeguards are more a confidence-building measure than a watertight barrier to proliferation. The NPT and safeguards agreements can theoretically be denounced as was recently shown by the DPRK. However, the non-proliferation regime in the wider sense includes other measures of a national character, including national export controls, which also serve as barriers to proliferation. Export controls, for example, are designed to make the acquisition or development of nuclear weapons more difficult, where the political-security disincentives may not have worked. The case of Iraq showed that there was room for considerable improvements in export controls and, as a result, that system is now also being strengthened.

Sharing peaceful uses of nuclear energy: NPT article IV

The NPT is not exclusively an instrument for verifying non-proliferation undertakings. The NPT also promotes the peaceful uses of nuclear energy among those States which have committed themselves to non-proliferation. Successive NPT Review Conferences have considered all commercial and aid assisted activities between States parties in the area of peaceful uses of nuclear energy to be relevant to article IV of the NPT.

Thus, for example, purely commercial activities such as the export of uranium or the sale of power-generating plants have been issues for consideration. One area of particular concern over the years has been assurance of supply.

Countries embarking on a nuclear power programme have sought through international negotiation to define agreed parameters within which they could be assured of an uninterrupted supply of the materials and equipment needed to maintain their nuclear power programmes. This discussion has centred on the need for importing countries to accept safeguards as a prerequisite for assurance of supply.

Most exporters and importers of nuclear-power-related items have now agreed in practice that full-scope safeguards, that is safeguards on all nuclear activities in a State, are the appropriate and necessary condition for nuclear cooperation and supply. The result is that most international commerce related to nuclear power generation, from the supply of uranium to the reprocessing of spent fuel, takes place within the framework of non-proliferation controls provided by the NPT. The accession to the NPT in recent years of some major supplier States has consolidated this framework.

While normal commercial channels are the dominant form of cooperation and technology transfer in the peaceful uses of nuclear energy, there are also active bilateral and multilateral programmes involving technical assistance geared particularly to the needs of developing countries. IAEA is the one major international organization with a mandate in this area.

The programmes of IAEA cover the full range of the peaceful uses of nuclear energy. Safety of nuclear power plants has been one high priority area, particularly since the Chernobyl disaster. Equally, safety and radiation protection aspects of the use of radioactive sources are a fundamental part of all Agency-assisted programmes.

For those many countries without plans for nuclear power, the most useful applications of nuclear technology are in the areas of health, agriculture, industry and environmental

protection. In many cases, IAEA activities in these areas are undertaken in conjunction with other international organizations. In fact, IAEA has a Division operated jointly with the United Nations Food and Agriculture Organization (FAO) devoted to food and agricultural applications. Its Marine Environment Laboratory in Monaco operates in close collaboration with the United Nations Environment Programme (UNEP). In the areas of health and food preservation there is close cooperation with the World Health Organization (WHO). The Agency's resources can be supplemented when its activities are conducted in collaboration with multilateral funding mechanisms such as UNDP (the United Nations Development Programme). While IAEA technical assistance is normally only provided to its own member States, in projects conducted in collaboration with other United Nations agencies or UNDP, IAEA is able to assist countries which are members of the other organization.

Article IV of the NPT continues to be seen by parties to the Treaty as an integral part of the total balance of obligations. But this view has not gone unchallenged. Some critics of IAEA have argued that the twin roles of facilitating the transfer of nuclear technology and applying safeguards to ensure the peaceful use of nuclear installations are incompatible. If those critics were correct, the NPT itself should be considered as a contradictory and unenforceable instrument. These critics seem to consider any strengthening of nuclear infrastructures and any transfer of knowledge in the area of nuclear science as contributing to the proliferation of nuclear weapons. Even the International Centre for Theoretical Physics in Trieste was recently the subject of a press report implying that it was the "training ground for Third World bomb makers". That Centre is run by IAEA and UNESCO, with extensive financial support from the host country, Italy. It is headed by the Nobel Prize winning physicist from Pakistan, Professor Abdus Salam, and is a highly regarded centre of

learning. It provides a unique environment for scientists from the developing world to work in and to exchange experience in numerous fields, and it contributes to arresting the "brain drain".

The extremist views of such critics are rejected by IAEA. The strength of IAEA—and indeed of the NPT—lies in the recognition of the beneficial uses of nuclear technology. Nuclear applications, both power and non-power, have already contributed much to the achievement of sustainable development and promise to continue to do so.

Like earlier NPT Review Conferences, the 1995 Conference is expected to review the record of implementation of article IV (and preambular paragraphs 6 and 7). IAEA is also expected again to prepare a report on its activities relevant to that review.

Previous Review Conferences have commented on the balance of the technical assistance programme. The Agency has attempted to meet the differing needs and stages of development of its member States. As noted, many member States seek assistance in non-power applications. Those interested in nuclear power argue for additional resources in that direction. Another issue has been the ability of donors that wish to do so to direct their assistance specifically to NPT parties in accordance with the calls of the parties to the NPT for preference to be given in nuclear cooperation to Treaty members. As a result, a scheme has been developed in the Agency to permit funding by donors of separate projects which could not be included in the regular programme of assistance. Assistance to least developed member States has been emphasized at previous reviews. In response, IAEA has developed a programme for "pre-project planning" to identify needs and assist these countries to formulate sound project proposals. Finally, it should be mentioned that Review Conferences have encouraged the creation of regional co-

operation mechanisms. The 1990 review welcomed the continuing contribution of the Asia and Pacific regional arrangement and welcomed the creation of the Latin American Regional Arrangement (ARCAL, 1984) and the African Regional Co-operative Agreement (AFRA, 1990), all three being based on the concept of "technical cooperation among developing countries" (TCDC)—so-called South-South co-operation.

We are convinced that the Agency's technical co-operation has been instrumental in creating in many developing member States a scientific infrastructure which will enable them to fully benefit from the applications of nuclear technology.

Building upon this achievement, it will be possible in many countries to concentrate Agency inputs more and more on those endeavours which are directed towards end users well beyond the scientific establishment. There are numerous examples already where, with Agency assistance, nuclear applications have made an appreciable difference in the quality of life through better health care, increased crop production, improved animal husbandry and insect and pest control. In the industrial area, significant investments by the private and public sector have followed the introduction of nuclear techniques through Agency projects. The demonstration effect that will spread from these activities may ensure that even in a situation where development resources are scarce, sufficient support will be found both at the international and national level to continue and expand the peaceful applications of nuclear energy. This is, of course, all the more desirable in view of the special contribution nuclear applications can make to lessen the threat to our soils and seas, our atmosphere and our climate.

Prospects for 1995

A climate of *détente*, stability and nuclear disarmament should lead to diminished general interest in nuclear weapons acquisition. However, for the universalization of non-proliferation and the unlimited extension of commitments, several things are needed. There is global *détente*, but some regions remain very tense. Drastic nuclear disarmament has been agreed, but it is not yet accomplished. International verification is being much strengthened to provide the confidence that States need so as to dare to live without, or with few, nuclear weapons, but the safeguards strengthening process is not yet finished. It is not naïve to aim at the universalization of non-proliferation and at an unlimited extension of the NPT, but it is prudent to be aware of the considerable hurdles.

Accelerated nuclear disarmament measures by the nuclear-weapon States have a great value *per se* and will also do much to facilitate the NPT Conference in 1995. I am not sure that the absence of a complete test ban agreement would block success, but I am sure that the conclusion of such an agreement would be of great help. A cut-off in the production of direct-use nuclear material for weapons purposes would also seem a plausible proposition at a time when the United States and Russia seem to have much more such material than they need. A verified cut-off might also be an interesting venture for countries like Israel, India and Pakistan.

To universalize reliable non-proliferation pledges, *détente* will be needed in the Middle East, on the Indian subcontinent, on the Korean peninsula and in the region of the former Soviet Union. Tailor-made solutions above and beyond adherence to the NPT may be needed in several of these cases. We have already seen how North and South Korea have agreed to renounce enrichment and reprocessing capacity. Such agreement obviously goes beyond the NPT and some

such arrangement may well be needed in the Middle East, where no legitimate peaceful need can be seen for such capacity at present. A nuclear-weapon-free zone in the Middle East would certainly only come about in the context of a peace settlement in that region. It could also be of importance for the extension of the NPT. Unless it comes about and comprises all relevant States, including Israel, there is a possibility that Arab States will be reluctant to commit themselves to non-proliferation for an unlimited period of time. I should add that a nuclear-weapon-free zone in the Middle East would require far-reaching arrangements for verification, perhaps combining international verification with some arrangements for mutual verification.

The role of IAEA

IAEA will continue to provide a framework for the full implementation of the basic understanding that the beneficial uses of nuclear energy be made more widely available in a framework ensuring exclusively peaceful use.

I have repeatedly stressed that the primary factor for inhibiting proliferation of nuclear weapons lies in political-security considerations. However, the need for confidence that commitments are being respected will continue to result in the need for effective on-site inspection. Some have suggested that the NPT-type safeguards agreements should be renegotiated in the light of recent experiences. I do not think this is either realistic or risk-free in the immediate future. The approach, I think, is more likely to continue to be incremental.

Provided that the safeguards system of IAEA is further strengthened, developed and given adequate resources, it is not far-fetched to believe that it could be used to verify the peaceful storage or use of nuclear material—highly enriched uranium or plutonium—once the material has been recovered from dismantled weapons and moved to the civilian

sector. In fact this is what now is happening in South Africa. The safeguards system is likely to be used in further nuclear-weapon-free zones, as it is now used in the Tlatelolco Treaty in Latin America and the Caribbean and in the Rarotonga Treaty in the South Pacific.

The safeguards system might also be used to verify a cut-off of the production of weapons-usable material, a task that would be both very difficult and resource demanding, as it would involve large bulk-handling facilities.

Even a complete test ban, it has recently been suggested, could be anchored in IAEA. Obviously some new unit would be needed in the Agency to coordinate reports from national systems of seismological surveillance and to coordinate any other agreed verification provisions. The nuclear expertise of the Agency could be of direct use in these areas and in identifying the radioactive traces of any test explosion. Furthermore, the Board of Governors of IAEA, with its balance between North and South and special representation of States which are advanced in the technology of atomic energy, would seem to be a well-designed body to supervise the implementation of a test-ban treaty, without the creation of a new organization. It is not necessary to create new international organizations for every new task.

In conclusion, new verification tasks will continue to arise with further measures in the nuclear arms control and disarmament field. Safeguards are dynamic, not static. Personnel with new expertise can be recruited for new functions. Were some or all of the political developments which I have outlined to come to fruition, IAEA could be faced with significant new challenges.

The Nuclear Non-Proliferation Regime: Options and Opportunities

John Simpson

Introduction

The current concerns to strengthen the nuclear non-proliferation regime arise from three stimuli:

—Known weaknesses in the regime, some of which have been highlighted to the world community through recent attempts by States to proliferate;

—The changes in the world political system consequent upon the end of the East-West global confrontation and the fragmentation of the former USSR into its constituent States;

—The imminence of the 1995 Conference at which a decision needs to be taken on the further duration of the nuclear non-proliferation Treaty.

Given these stimuli, the first necessity is to analyse the degree to which the non-proliferation problem has changed since the regime was first created, and thus offer a basis for evaluating the ability of the existing regime to deal with the new problems that confront it.

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The changing nature and definition of the nuclear non-proliferation problem

When the first steps were being taken in the mid-1960s to create an international regime to prevent nuclear weapons from spreading, the task appeared herculean in its nature. There was wide acceptance of the view that nuclear weapons would inevitably spread. This belief, amounting to a form of technological determinism, appears in retrospect to have been based on several assumptions:

—Nuclear technology was a "spearhead technology". Competition to acquire it would be fierce, and it would be used to evaluate a State's political, military and economic standing;

—As there was no real "secret" involved in fission weapon technology, there would be an inevitable dissemination of this knowledge to specialists in additional States as nuclear technology evolved and matured;

—The use of nuclear energy for power generation would spread rapidly, and with it the knowledge and technology to manufacture the fissile material required for nuclear weapons;

—Nuclear warheads would have an increasing number of military applications, especially because of their ability to compensate for the inaccuracy of existing weapon delivery systems. Warheads of relatively small yield would be regarded as "normal" weapons and capable of being used in "limited" war;

—Strategic warheads would make wars involving reciprocal strategic bombardment unthinkable, and thus would be widely acquired to deter such bombardment.

From the perspective of 1993, it is clear that most of these assumptions have not survived the test of time. Above all:

—The "secret" of developing and manufacturing reliable thermonuclear weapons has been largely restricted to the five declared nuclear-weapon States, thanks to the inability of

others to gain information from atmospheric testing and the implicit acceptance of a ban on testing by other "ambiguous" nuclear-weapon States. This in turn has self-deterred States which might be able to manufacture first generation fission devices from publicizing their status, as this technology may not seem an effective deterrent when confronted by that of an existing thermonuclear-weapon State;

—Nuclear energy has rapidly been overtaken as the spearhead technology by computer and communications technologies, while the growth of nuclear power capacity appears to have peaked, and its restriction to a relatively few States appears increasingly probable;

—The direct military utility of nuclear warheads has been largely discounted, due to the advent of highly accurate and lethal conventional weaponry; the inability to distinguish between battlefield and strategic use of nuclear weapons and thus to remove the risk of suicidal escalation to a nuclear holocaust; and the sustaining of the custom of nuclear-weapon non-use for 48 years;

—The security value of a nuclear deterrent now seems to be largely restricted to providing countervailing force against other nuclear-weapon States. Such a deterrent is obtainable only at great absolute and opportunity cost, due to the need to provide credible delivery systems and their supporting infrastructure. Alternative methods of providing nuclear security benefits are now available through non-proliferation pledges, security guarantees, IAEA safeguards assurances and nuclear disarmament.

These positive developments, and above all the loss of the political driving mechanism of the nuclear arms race, the East-West confrontation, have made it possible to contemplate not only preventing the emergence of additional declared nuclear-weapon States, but also the disarmament of both categories of States: those States with ambiguous nuclear capabilities and the existing nuclear-weapon States. In the

latter case, however, the magnitude of the stockpiles of the United States and the former USSR makes the safe dismantling of their nuclear warhead stocks within ten to fifteen years impractical, though they could be rendered inoperable in a lesser period of time by disablement and the destruction of their associated delivery systems.

One of the key changes since the 1960s arising from these developments is an enhancement in the expectations placed upon the nuclear non-proliferation system. Originally, the realistic aspiration was that nuclear dissemination and proliferation might be slowed down if the nuclear arms race could be brought under control. In 1993, the realizable ambition is to prevent nuclear proliferation and roll back the arming of the existing nuclear-weapon States. Several events since 1991 appear to support this change, including the acceptance by Argentina and Brazil of full-scope IAEA safeguards, and the accession of China, France and South Africa to the NPT.

At the same time as aspirations have changed, so too have perceptions of the most likely technical paths that States might use to proliferate and the identity of probable proliferators. The Iraqi and South African cases have indicated that the most likely path to acquire fissile material is no longer by diversion of plutonium produced in nuclear power facilities, but through the construction and operation of uranium enrichment plants, often using dual-use technologies, which are not open to IAEA inspection. They have also illustrated that the problem is no longer dissemination or proliferation of nuclear weapons to allies of the major nuclear-weapon States, but to States outside of security alliance systems.

The situation in which States wishing to proliferate could be easily identified as they remained outside the NPT or did not accept full-scope safeguards has also undergone change. The number of "suspect States" falling into this

category has been halved with the removal of Argentina, Brazil and South Africa from the list, leaving only India, Israel and Pakistan with significant nuclear facilities and stockpiles of fissile materials not under IAEA safeguards. Yet NPT membership can no longer be regarded as an absolute certificate of a State's non-proliferation credentials, following the activities of Iraq.

The result is that the nature and definition of the proliferation problem, which the non-proliferation regime seeks to address, has been changing. The technical dimension no longer centres upon diversion from the nuclear fuel cycles of advanced industrialized States, such as Germany and Japan, but upon the operation of clandestine uranium enrichment plants built specifically for security purposes in both NPT parties and non-parties. The political dimension no longer involves only States with ambiguous policies over nuclear weapons and unsafeguarded nuclear facilities that have remained outside the NPT, but it now includes renegade NPT parties also. Perhaps more significantly, however, a new set of proliferation concerns has arisen consequent upon the evolution of the former USSR into a number of independent sovereign States.[1] Several quite distinct proliferation problems resulted from the collapse of the former USSR. These included the dangers that:

—Nuclear weapons could be acquired through secession by some of the States emerging out of the former USSR. This danger was very acute in the early months of 1992, but has now been reduced to the continued presence of strategic nuclear warheads on Belarus, Kazakhstan and Ukrainian territory;

—The dismantling process in Russia (and the other nuclear-weapon States) for retired nuclear weapons and the existence of reserve fissile material stocks would result in accounting uncertainties in relation to fissile materials and

weapon components. This in turn would make assurances that no materials were being traded illegally or smuggled to other countries problematic;

—Nuclear specialists from nuclear-weapon States, becoming either unemployed or destitute or both, would sell their expertise to aspiring nuclear-weapon States;

—No satisfactory technical solution would be found in the short term for the disposal of stocks of separated plutonium resulting from weapon dismantlement, and it would have to be stored and guarded, unlike the situation in respect of highly enriched uranium (HEU), which could be blended down for use as power-reactor fuel.

One result of these developments is that while nuclear-weapon States may have ceased to be a cause for concern as far as the initiation of nuclear warfare is concerned, they are now becoming an increasing focus of concern as sources of nuclear proliferation.

The definition of the problem of nuclear proliferation can thus be seen to have evolved since the 1960s from one of an accepted response to State insecurity by advanced industrialized States, utilizing civil fuel cycle facilities to acquire the necessary fissile materials; through the adoption of this response by non-parties to the NPT with significant nuclear facilities; to a concern for renegade parties to that Treaty and the consequences of the fragmentation of the USSR and the resultant processes of nuclear disarming.

The constituent elements of the nuclear non-proliferation regime

For the purposes of analysis, the international arrangements that have evolved since the mid-1960s to address the problems of nuclear proliferation can be divided into four main components:

—A global process of norm creation through diplomatic consensus-building;

—A global system of technology denial;

—A global system of enforcement of regime compliance;

—Regional structures to reinforce the global institutions.

The boundaries between these components are often not well defined. But the underlying rationale is that nuclear proliferation can only be prevented by reducing political and security motivations to proliferate; by manipulating the cost/benefit calculations of potential proliferant States by denying the relevant technologies; by implementing measures to enhance the prospects of discovery of clandestine programmes; and by highlighting the very adverse consequences should discovery occur.

Norm creation and diplomatic consensus-building

This process can be seen to be focused upon the global norm not to acquire, develop or deploy weapons of mass destruction, and specifically nuclear weapons and devices. The significance of this norm can be argued to have been reinforced by sustaining the taboo against the use of nuclear weapons for 48 years. Among factors contributing to this have been: the increasing belief in the irrelevance of nuclear weapons as military instruments; the limited number of States capable of developing nuclear weapons which have overtly done so; and the fact that one State, South Africa, did develop nuclear devices covertly and then dismantled them.

Currently, the global legal instrument which exclusively embodies the non-nuclear weapon norm is article II of the NPT. This is a major reason why this Treaty provides the diplomatic foundation for the global nuclear non-proliferation regime. At the same time, the NPT contains no absolute provisions dealing with the total elimination of nuclear arms

by the existing nuclear-weapon States, and is thus perceived to be both inherently discriminatory and inconsistent. Hence, the problems at NPT Review Conferences concerning the implementation of article VI, dealing with nuclear disarmament, where the areas of consensus, or lack of it, in relation to the diplomatic foundations of the regime are addressed.

In this context, all moves to implement nuclear disarmament by the nuclear-weapon States could be regarded as significant reinforcements to the regime. What remains in dispute, however, is the pace of the process; the role of non-nuclear-weapon States in relation to it; and differing perceptions of the priorities to be accorded to specific measures of nuclear disarmament. These controversies in turn reinforce doubts that the nuclear-weapon States are seriously committed to eliminate the logical contradiction underlying the diplomatic system—in other words, are truly committed to the end-state of nuclear disarmament as a long-term goal. Arising from these areas of disagreement are several specific issues upon which consensus is still lacking. These include:

—The need for enhanced negative nuclear security assurances and/or a no-first use commitment from the nuclear-weapon States, until such time as nuclear disarmament does occur;

—The priorities to be given to proposals aimed at reducing the ability of the existing nuclear-weapon States to modernize, maintain and reinstate their nuclear arsenals (a CTBT, fissile material cut-off for military purposes, transfer of fissile material formerly allocated to military uses to IAEA safeguards), as against unilateral and bilateral measures to dismantle these arsenals (INF, and START I and II);

—Whether the nuclear-weapon States alone should be involved in the nuclear disarmament process, in order to reduce dissemination of weapons information. The alternative view is that the nuclear-weapon States are now an integral part

of the nuclear proliferation problem, both because of their example and the potential dangers posed by diffusion of their own weapons technology and nuclear materials.

One further element of norm creation and diplomatic consensus-building is the role played by the IAEA safeguards system. This has based its past activities on the assumption that States are adhering to their declarations of the uses made of nuclear materials within their jurisdiction. Its role has been to provide assurances to the international community that these declarations are being complied with, and to offer early warning if they are not. By so doing it has provided an essential basis for international nuclear trading, and legitimized the proposition that a distinction can be drawn between military and civil uses of the atom, and that all NPT parties have a right of access to these civil uses.

Technology denial

This element of the regime, together with compliance and enforcement measures, is based upon the proposition that consensus politics will not prevent a determined State from proliferating: only denial of capabilities and coercion will achieve this. By creating conditions whereby imports of essential nuclear materials and technology are denied to such States, what is sought is at best to prevent proliferation and at worst to slow it down. This involves two apparent contradictions in relation to the consensual elements of the regime: exports are to be denied to a State on the discriminatory basis of the perceptions held by a group of advanced industrialized States of its propensity to proliferate; and IAEA safeguards in themselves are not seen as adequate to assure that such exports will not be misused. However, since at its inception this system of export controls was nominally directed against non-parties to the NPT, and thus did not breach the right of Treaty parties to have access to nuclear technology, the latter contradiction was initially less visible. Moreover, operating

the guidelines on the basis of the sovereign right of States to make individual export decisions has allowed these contradictions to be legally finessed.

A number of separate nuclear export guideline systems have evolved since the late 1960s. Since these export guidelines have been used in practice to discriminate against NPT parties, as well as non-parties, they have had the effect of denying capabilities to "suspect" States at the expense of the consensus foundations of the non-proliferation regime, though they have probably had the desired effect of slowing down the process of proliferation in these States. The best known export guidelines are those related to nuclear materials, plants and technologies which were agreed by a group of supplier States in the 1970s. In practice, these were aimed at denying reprocessing and enrichment technologies to "suspect" States. In 1992, they were supplemented by a new system of guidelines on dual-use technologies—in other words, those technologies which had uses other than in nuclear applications. At the same time, it was agreed that exports would henceforth only be made to States which were either parties to the NPT or accepted full-scope IAEA safeguards. Additionally, in 1987, an attempt was made to address another aspect of the proliferation problem by extending export controls to nuclear delivery systems, specifically to missiles, through the Missile Technology Control Regime.

Regime compliance and enforcement

Whether the nuclear non-proliferation regime should move beyond consensus on norms and denial of technologies to enforcement of compliance with those standards has been a profound challenge for the non-proliferation regime. The fact that such action is now on the agenda is an indication of the quantum change that has taken place in the nature of the regime created in the 1960s. It has been made possible by the

new international political environment, in which concerted action by the United Nations Security Council is feasible. The transformation has been stimulated by the enforcement action taken by the Council in the special case of Iraq, and has given rise to activity in two distinct contexts.

The first is whether IAEA should adopt a more adversarial stance in its relationship with States it is inspecting, including NPT parties. More particularly, there is the issue of whether it should make use of information supplied through "national technical means" (i.e., national intelligence information) to demand the right to conduct special inspections of alleged undeclared nuclear activities and facilities. The situation over North Korea during 1993 has been a case in point.

The second is whether the Security Council should take enforcement actions against potential and actual proliferators, including those States which have been referred to it by IAEA for non-fulfilment of their safeguards commitments. Again, the action against Iraq has been the stimulus for this, and North Korea is the current focus of attention. Moreover, the January 1992 statement by the President of the Security Council, indicating that proliferation would in future be regarded as a threat to the peace under Chapter VII of the Charter, reinforced perceptions that international enforcement action was now an active possibility. What remains to be seen is what form such action might take in specific cases, and whether it will involve the use of military force.

Regional structures

As the United Nations system reverts towards the type of structures for dealing with international conflicts envisaged by the authors of its Charter in 1944, regional conflict prevention and resolution organizations will probably play an increasingly important role as a first line of defence before resort to the United Nations itself. Such a development

has already occurred in the nuclear non-proliferation area. Here, the most significant regional structures have been the nuclear-weapon-free-zone treaties in Latin America and the South Pacific, and perhaps by 1994 in Africa. Such treaties are an important means of reinforcing the global norm against nuclear weapon possession, without competing with the commitments in the NPT itself. Arguably prior to 1989 the East-West security alliance structures also performed a regional role in preventing nuclear proliferation, and the CSCE/NATO arrangements and those between the United States and nations on the Pacific rim might continue to do so. In addition, regional nuclear energy cooperation and control organizations such as ABACC between Argentina and Brazil in Latin America, and EURATOM in Western Europe have been significant reinforcers of the global non-proliferation systems.

Options and opportunities for reinforcing the regime

Reinforcing global non-proliferation norms and diplomatic consensus

The priority need here, in the absence of any alternative treaty offering similar benefits to the international community as those under the NPT, is to ensure that the Treaty is extended in 1995 by consensus for a lengthy period. This will provide the opportunity to reinforce the global non-nuclear weapon and non-nuclear proliferation norms. Extending it for a short fixed period would send a signal to potential renegade parties, and to any States considering accession, that the global community has abandoned the attempt to prevent proliferation: only a decision to extend it indefinitely, in an unconditional or procedurally conditional manner, would not send that signal. Similarly any lack of consensus over the extension decision would damage the authority of the Treaty.

At the same time, the opportunity might be taken to reinterpret elements of the Treaty, and to contemplate supportive agreements with regard to others. This has already been undertaken de facto with article III, paragraph 2, where full-scope IAEA safeguards have become a condition of supply to non-parties. This means they are denied access to modern nuclear technology, and for those with aspirations to future nuclear power programmes, this could be a significant incentive to persuade them to abandon nuclear ambiguity and accede to the NPT. There is also an overwhelming case for strengthening IAEA safeguards by allocating more resources to the enterprise; by insisting on greater transparency over the nuclear energy activities of all States; and by making special inspections more routine and thus more acceptable. The negotiation of an agreement on enhanced negative security assurances/no-first use of nuclear weapons would also be welcome, as it would assist in reducing perceptions of the utility of nuclear weapons, as well as addressing security concerns and redressing to some extent the discrimination inherent in the Treaty.

There remains one area where enhanced consensus remains highly unlikely, however, namely the implementation of nuclear disarmament. This has presented a perennial problem for the consensual base of the non-proliferation regime, given its connotations of highlighting areas of inconsistency and discrimination within the NPT. It has also been indicative of a wider issue, namely that a nuclear holocaust resulting from an East-West conflict was the overriding cause of nuclear concern. This issue has now been largely discounted, and nuclear proliferation has replaced it as the number one item on the arms control and disarmament agenda.

There is little doubt that negotiation of a CTBT and a cut-off of fissile material production for nuclear weapon purposes would clear the air, heal many long-running

diplomatic sores, generally be beneficial for the atmospherics of the non-proliferation regime and appear to offer the prospects for enhancing the consensual base for that regime. But underneath this traditional disarmament agenda are two sets of issues waiting to emerge, which will demand even more difficult attempts at consensus building. One is the nuclear disarmament process beyond the year 2000 and the future role of nuclear weapons within the global political system, including the possible retention of a small stock for deterrent use by the United Nations itself. The other is the role of disarmament arrangements between nuclear-weapon States in preventing proliferation: not vertical proliferation as in the past, but horizontal proliferation.

It is accepted that the safe dismantling of the existing nuclear arsenals will require much time and technical effort: they cannot disappear overnight. In the case of Russia, the target appears to be to dismantle at a rate of about 2,000 warheads per annum, and reduce down to levels of about 3,000 strategic warheads by the year 2003, or by 2000 if additional resources can be injected into the process. In the case of the United States the figure would be 3,500. No clear targets, or prediction of stockpile levels, appear to exist for sub-strategic warheads at this date, though joint holdings seem likely to remain at five-figure levels given current plans. Beyond this there exists no clear international vision of what happens next, and in particular how the process might move stockpiles down to much lower levels and aim to eliminate them entirely. Such visions will need to be linked to new thinking on the evolving structure of the global political system and the role of the United Nations and nuclear weapons within that system. The lack of any dialogue on these issues, while avoiding opening new areas of contention in the short term, is not likely to be conducive to the creation of a consensus on these matters able to take the international community constructively into the next century. And such a

dialogue seems essential if the consensual base for the regime is to be reinforced at that time. Commencing work now on future nuclear disarmament strategy thus appears an essential reinforcement of the consensual non-proliferation regime.

The need for such a vision is made more urgent by the nuclear-weapon States themselves having started to become part of the horizontal proliferation problem. This has occurred in two ways. First, the problematic status of the nuclear warheads remaining in Belarus and Kazakhstan, but more particularly in the Ukraine, offers the prospect of additional nuclear-weapon States emerging by succession, in the absence of their accession to the NPT. The ratification of the START I and START II Treaties by these States and their accession to the NPT are thus essential acts of reinforcement for the nuclear non-proliferation regime. Second, concerns over "loose nukes", the smuggling of fissile materials and nuclear weapon components, and the emigration of nuclear-weapon scientists have highlighted the desirability of providing assurances to the global community of the effectiveness of military material accountancy systems and the security and the safety of weapon and material storage and dismantling facilities in all nuclear-weapon States. Without such assurances, and enhanced transparency on the part of all these States, this issue seems likely to grow in significance. The purchase of blended down U235 for civil power use still leaves a need for initiatives to place all remaining fissile materials from retired weapons under IAEA safeguards. This would reduce some of the existing concerns, and also serve as a useful reinforcement of the consensual basis of the non-proliferation regime.

Such initiatives would also bring to prominence contention over whether additional technical constraints should be imposed on NPT parties. Changes in nuclear technology since the 1960s suggest that there is no essential need for reactors to be fuelled by weapons-grade HEU, the only exception being at most a handful of isotope production

and materials testing facilities. Similarly, changes in the scale of nuclear activities mean that there will exist plentiful substitutes for the use of plutonium as a reactor fuel for the next 15-20 years. This has led to demands that, whether informally or formally, global production and separation of plutonium should cease. This issue is further complicated by the creation of additional stocks of these materials through weapon dismantlement. The advantage of such a move is that it would simplify IAEA safeguarding problems, as any production of other than low-enriched uranium or separation of plutonium would be outlawed, and thus a further technical barrier would be created to proliferation. Alternatively, the problem might be addressed through internationalization, specifically by the creation of global plutonium and HEU management systems.

Reinforcing the denial system

No new initiatives in this area, other than keeping guideline items under review, appear to offer the prospects of enhancing the ability of suppliers to deny technology to those they perceive as potential proliferators. What does appear possible, however, are moves to expand the membership of the supplier groups, and thus enhance the consensual basis for their operations. However, this can only be a palliative, as it is in the nature of this type of arrangement that it will be inherently discriminatory. In addition, there seems to be scope to adapt the MTCR in two directions, the most obvious of which is to increase its membership. The second is to contemplate creating a much more comprehensive regime, which might attract consensus support. One option would be to do so along the lines of article V of the NPT, with redundant military ICBMs providing extremely cheap launch services for those States aspiring to operate satellites. In return, those States would not proceed with indigenous development

programmes. A second would be to include certain types of military aircraft within the regime.

Reinforcing the enforcement system

The structure for a future enforcement system has existed since the 1960s, but has now been activated, with IAEA acting as the investigative arm and technical judge for the United Nations, and the Security Council acting as the political judge and political and military enforcer. What remains to be seen is whether the collective political will can be generated to carry through enforcement action against potential proliferators. At the same time, the development of some system to enable IAEA or the United Nations to have access to independent sources of intelligence materials and evaluation, such as a United Nations satellite reconnaissance agency, might be very beneficial.

Reinforcing regional systems

The key vehicle for this appears likely to be the creation of additional NWFZs. At the same time, it seems clear that what is urgently needed is an increase in regional collaborative structures in all areas to build up their own conflict resolution capabilities. This suggests an urgent need for the creation of regional nuclear collaboration fora, which can act as a working-level stimulus and underpinning to NWFZs. Areas where such a development might be urgently encouraged include North, South-East and South Asia and the Middle East.

Conclusions

Since 1991, after some decades of virtual stagnation, the definition and nature of the non-proliferation problem has changed rapidly. Although the four elements of the existing regime are capable of collectively addressing the changed nature of the redefined problem, they need strengthening in

areas where deficiencies have been demonstrated to exist. In addition, the regime itself requires widening in scope, to address more directly those outside of it and the non-proliferation problems arising from nuclear disarmament. This suggests that the international community, and the United Nations in particular, needs to address as a matter of urgency a new nuclear disarmament agenda centred around the necessity of preventing nuclear proliferation, both to deal directly with problems arising from the process and to reinforce the consensual base for the regime. For one of the key changes since 1991 is that the nuclear non-proliferation regime and the NPT are no longer a peripheral element of the substantive super-Power arms control process; that process, in particular START I and II and their implementation, has now become transformed into an integral part of the substantive nuclear non-proliferation process.

At the same time, the tools available within the non-proliferation regime have been made more powerful, in particular through the greater willingness of the Security Council to become seized of non-proliferation issues, and of IAEA to press for greater transparency and to implement special inspections. In addition, a new layer of non-proliferation instruments to reinforce the global regime is starting to emerge at the regional level. Above all, however, there is the need to extend the NPT indefinitely, or quasi-indefinitely, by consensus in 1995. For not to do so would send an unambiguous message to would-be proliferators that the international community is no longer seeking the indefinite prevention of nuclear proliferation, but some lesser goal.

Note

1 I owe a considerable intellectual debt to William Walker from the University of Sussex, United Kingdom, who first alerted me to several of the issues discussed in this section.

The Role of the Nuclear Powers

Ivo H. Daalder

The nuclear Non-Proliferation Treaty (NPT) rests on an explicit bargain between the nuclear and non-nuclear-weapon States: the latter agreed to forgo the acquisition of nuclear weapons on the condition that the nuclear Powers would, in the words of the Treaty's article VI, "pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament". The indefinite and unconditional extension of the NPT, to which each of the five recognized nuclear-weapon States is committed, will depend in part on whether all NPT parties believe that the five Powers have made sufficient progress to this end. The United States and Russia in particular can justifiably claim that they have made major strides in recent years in not just halting, but actually reversing, the nuclear arms race. They have concluded two strategic arms reduction Treaties, and both have made significant unilateral reductions in their non-strategic nuclear forces. Once implemented, these agreements will reduce United States and Russian nuclear forces by over seventy per

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The article draws on the concluding section of his chapter "Stepping down the thermonuclear ladder: How low can we go?" in Ivo Daalder and Terry Terriff, eds., *Rethinking the Unthinkable: New Directions for Nuclear Arms Control* (London: Frank Cass, 1993).

cent from the level both deployed at the time of the last NPT Review Conference, held in 1990.

There can be little doubt that nuclear force reductions of the magnitude negotiated in recent years represent a dramatic departure, one that is fully in keeping with both the letter and the spirit of article VI of the NPT. Welcome as these efforts are, however, more can and should be done to reverse the nuclear buildup in the years ahead. Even after the very deep reductions mandated by the START II Treaty have been implemented, United States and Russian force levels will have been reduced to a level similar to that deployed in the late 1960s, when the NPT was signed. Moreover, the three other nuclear Powers—Britain, China, and France—have yet to commit themselves to the kind of negotiated reversal of the nuclear arms race that the two major nuclear Powers have undertaken. Yet, they too have a commitment under the NPT to pursue nuclear arms control and disarmament negotiations. For these reasons, the recent arms control success should be regarded as the beginning of a process rather than as its end.

What should be the goal of future nuclear arms negotiations? Article VI of the NPT makes clear that the ultimate goal must be nuclear disarmament, and many if not all of the non-nuclear signatories will demand no less. But this goal will of necessity be achieved only in stages. Clearly, the negotiation of the START Treaties and the unilateral reductions in United States and Russian non-strategic forces represent one stage in this process. The next stage should involve a concerted effort to reduce the value of nuclear weapons in the national security policies of the nuclear Powers. This will require a phased reduction of nuclear weapons involving bilateral negotiations between the United States and Russia, five-Power negotiations among all nuclear-weapon States, and multilateral negotiations designed to enforce global restraints and reduce existing asymmetries between the nuclear "haves" and "have-nots". Only once this

stage has been fully implemented will it be possible to consider how to move towards complete nuclear disarmament.

Devaluing nuclear weapons

Whatever the merits of the elaborate nuclear deterrence strategies devised by the United States and the Soviet Union in the past, it is clear that they no longer serve a useful purpose. The principal reason for maintaining nuclear weapons today is the difficulty of devising a secure and verifiable way for ensuring their elimination. Since no such magic wand is likely to be discovered any time soon, the best that can be hoped for in the short and medium term is a concerted effort to devalue nuclear weapons as instruments of national security. In so doing, the conditions may eventually emerge for their complete elimination. To this end, the United States, Russian, French, British, and Chinese nuclear force levels must be drastically reduced from levels each currently contemplate under existing arrangements. Indeed, it should be possible for Washington and Moscow to agree to reduce their respective forces to 200 weapons each and for the other countries to undertake a similar reduction in their respective forces. As part of this process, global restraints on the actual or inherent nuclear capabilities of other countries should also be agreed.

A comprehensive arms control strategy should aim to achieve agreement on these issues in two phases by the year 2000, although the actual destruction of weapons will take more time. The strategy should combine bilateral negotiations between Russia and the United States, negotiations among all five declared nuclear Powers, and multilateral negotiations.

In *phase one*, to be completed by 1995:

—The international community would negotiate a comprehensive nuclear test ban (CTB) and a worldwide cut-off of fissile material production for weapons purposes;

—The five nuclear Powers would agree to eliminate their non-strategic nuclear weapons entirely; and

—The United States and Russia would negotiate further reductions in their strategic forces.

Halt nuclear testing and fissile material production

Central to any effort to devalue or depreciate nuclear weapons as instruments of military and political power in international affairs should be international agreements to ban nuclear testing and to halt the production of fissile materials for weapons purposes. Both agreements would place non-discriminatory restrictions on nuclear weapons capabilities of all countries and should therefore encourage wider adherence to international non-proliferation standards. More importantly, the agreements would effectively cap the nuclear weapon capabilities of actual proliferators and deny potential proliferators the ability to acquire such a capability. Both agreements are therefore critical to achieving reductions in nuclear forces to very low levels.

A major stride in the direction of a CTB was made in early July 1993 when United States President Bill Clinton announced that the United States would extend its moratorium on nuclear testing, already in effect since October 1992, for another fifteen months so long as no other nation tests. The President also called on the other nuclear Powers to join the United States in negotiating a comprehensive test-ban treaty. Reactions to the United States announcement were mixed. Russia and France both announced that they would extend their own moratoria on testing and both reiterated their support for a CTB, although Paris placed a number of conditions on its support. Britain, which relies on the United States testing site in Nevada, had little choice but to endorse the moratorium as well as a CTB. Finally, China, while

welcoming the United States announcement, refrained from instituting a moratorium itself and also reiterated that it supported a CTB only as part of a nuclear disarmament process. Nevertheless, with the United States and Russia firmly on record in favour of a CTB and with four of the five nuclear Powers supporting the testing moratorium, prospects for a successful negotiation of a comprehensive ban by 1995 would appear to be bright.

A second element of a concerted strategy to devalue nuclear weapons should be an international agreement banning the production of fissile materials for weapons purposes. In August 1993, the Clinton Administration announced that it supported negotiation of such a convention. Under the United States proposal, countries would only be allowed to produce plutonium and highly enriched uranium if the production facilities were placed under IAEA safeguards. In addition, the United States would urge some countries to forgo production of these materials altogether as well as to close existing production facilities. Ultimately, it would be preferable if the agreement were extended to a ban on the production of fissile material for any purpose. Such an agreement would require France and Japan to forgo current plans to use plutonium for the production of nuclear energy, and it might also require changing the design of reactors fuelling nuclear-powered submarines. The latter is not an impossible task, while the economics of the plutonium economy are likely to ensure that countries currently embarked on plutonium-power programmes will soon revisit the issue.

Eliminate non-strategic nuclear forces

To be effective, multilateral negotiations restraining actual and potential nuclear weapons production and testing capabilities should be complemented by negotiations that

limit the capabilities of the nuclear Powers specifically. As a first step to further reductions in their nuclear arsenals, the five nuclear-weapon States should enter negotiations aimed at eliminating all their non-strategic nuclear forces, that is, weapons of less than intercontinental range. Significant strides in this direction have already been made through unilateral action. In the fall of 1991, the United States, the then-Soviet Union, and Britain announced that they would eliminate their ground-based tactical nuclear weapons and remove all non-strategic weapons from surface vessels and submarines. Each country also decided to cut its air-based weapons by 50 per cent or more. France has also announced changes, though less extensive, in its tactical nuclear weapons inventory, notably by cancelling the modernization plans for its short-range missile force, which will now be phased out by 1994.

The time has come to move the process towards its logical conclusion by negotiating the complete elimination of all non-strategic nuclear forces, including ground-, air-, and sea-based systems. The retention of these short-range weapons compels the belief that nuclear weapons still have a military purpose, a belief that clearly goes contrary to the need to devalue nuclear weapons. Moreover, as the weapons least subject to secure command and control, the need to ensure their rapid elimination at a time of rising political difficulties, especially in Russia, is clear. If only for this reason, a five-Power agreement to eliminate tactical nuclear weapons would be very worthwhile.

Cut United States and Russian strategic forces

Finally, in the first phase of this concerted arms control strategy, the United States and Russia should negotiate further reductions in their strategic nuclear forces. Before

doing so, however, both countries should accelerate the implementation of the START II Treaty. As a first step, Washington and Moscow should agree to deactivate all weapons slated for reduction under the Treaty within twelve months. (The United States should even consider doing so unilaterally if Russian agreement is not immediately forthcoming.) The weapons thus removed should be placed in central storage sites that are subject to bilateral or international on-site and electronic monitoring. The two countries should also agree to destroy all weapons reduced under this arrangement, a provision currently absent from the START Treaties. An agreement along these lines might provide Ukraine with sufficient incentive to accelerate implementation of its obligations under START I. Rather than removing the weapons to Russia for immediate dismantlement, Kiev might consent to their storage on Ukrainian territory under United States–Russian–Ukrainian or international supervision, as the United States has proposed.

Once these arrangements have been agreed upon, Washington and Moscow should enter negotiations aimed at further reduction in their nuclear stockpiles. The goal of these negotiations should be an agreement eliminating all land-based missiles, banning all multi-warhead or MIRVed sea-based missiles, and reducing conventional and nuclear strategic bombers to 100 on each side, while limiting their weapons load to 200 air-launched cruise missiles (ALCMs) in total. An agreement along these lines would reduce United States and Russian nuclear weapons inventories to about 650 weapons on each side: 200 weapons on strategic bombers and approximately 450 weapons on sea-based missiles. All weapons to be reduced under this proposal would eventually be dismantled. Until that time, the weapons should be disabled and placed in the storage sites containing weapons reduced in earlier stages, which should continue to be subject to permanent bilateral or international monitoring. Fissile

materials recovered from dismantled warheads should be placed under international safeguard or, where possible, converted for use in civilian power reactors.

With a concerted effort on the part of the major Powers, it should be possible to complete negotiations on the agreements proposed for phase one by 1995. This assumes, of course, that the nuclear Powers are committed to devaluing nuclear weapons in their foreign and security policies. On that assumption, the steps advocated are relatively straightforward. Many have been part of the international nuclear arms control agenda for years, some even since the mid-1940s. In completing phase one, the nuclear Powers will have taken decisive steps towards reducing the nuclear danger still further, while clearly devaluing the role of nuclear weapons in general. That should clearly demonstrate their commitment to the NPT bargain. It would also open the way towards phase two.

In *phase two,* to be completed by the year 2000:

—The international community would negotiate a worldwide ban on military ballistic missiles based on land with ranges greater than 150 km;

—The five declared nuclear Powers would agree to de-MIRV all ballistic missiles; and

—The United States and Russia would limit their nuclear forces to approximately 200 weapons and place the bulk of them in monitored storage sites.

Eliminate land-based missiles

With the United States and Russia having agreed to eliminate their land-based ballistic missiles in the earlier phase, the next step would be to begin negotiations on a global ban on all military ballistic missiles based on land with ranges greater than 150 km. The dangers of ballistic missile

proliferation to international security have become increasingly apparent in recent years, as the war of the cities between Iran and Iraq and the SCUD attacks on Israel and Saudi Arabia demonstrated. Rather than concentrating on the development of highly capable theatre and strategic ballistic missile defences, the appropriate response to this growing threat would be to seek a complete ban on such missiles on a worldwide basis. Having demonstrated by their own actions that land-based missiles have little military utility, the United States and Russia can together attempt to convince other countries that they should follow in Washington's and Moscow's footsteps. Although the practical details of verifying such a ban on land-based missiles will take some time to work out given the continuing desire and need of some to have access to space, an agreement that land-based missiles for military purposes be banned would strengthen international security in general. Whether all countries (including China and, thus, India and Pakistan) would immediately sign on is perhaps doubtful, but the pressure of the United States and Russian example would be more helpful than if both countries still deployed land-based missiles of their own.

Ban multi-warhead missiles

The second element of phase two would consist of an agreement among the five declared nuclear Powers to de-MIRV their ballistic missiles. Such an agreement would in practice affect only France and Great Britain, since China does not possess any MIRVed missiles and the United States and Russia would have de-MIRVed their SLBMs in the earlier phase. A de-MIRVing of French and British sea-based missiles would limit their nuclear forces to about 64 to 80 warheads, depending on the number of submarines each would deploy. If Britain were to produce a fourth submarine, as seems likely, it would deploy 64 warheads; the same would be true for France, unless it developed a fifth submarine, in

which case it could deploy 80 warheads. Assuming that strategic missile defences were banned, forces of this size should suffice to perform the limited deterrent functions for which they have been developed.

Down to 200 weapons

Finally, assuming the first two elements had been agreed upon, it would be possible for the United States and Russia further to reduce their strategic forces. Both should agree to remove missiles from their submarines so that each deployed no more than 108 single-warhead SLBMs. They should also agree to limit the number of warheads at sea to 24 at any one time and operate these SLBMs on a "modified" alert, which is the normal alert status for United States submarines leaving port. According to Bruce Blair, submarines on modified alert require at least 18 hours "to complete the complex procedures—for instance, the removal of the flood plates from the launch tubes and the installation of vital electronic components into the fire control system—that enable them to assume a launch-ready disposition."[1] The remaining warheads would be placed in monitored storage sites. In addition, both countries should limit their nuclear air-delivered inventory to 100 ALCMs, all of which would be placed in monitored storage sites. The ALCM and SLBM warhead sites should be monitored electronically so that entry (and possible retrieval) would be communicated instantly to the other side. Both would then be in a position to take necessary counter-action in case unexpected developments occurred. At the same time, neither side would be able to make preparations for use of these weapons without the other being informed well in advance.

This final phase of the proposed arms control strategy would bring all declared nuclear Powers into the strategic nuclear reductions process. France, Britain, and China will

have to make fundamental choices about the role of their nuclear weapons (as opposed to those of Russia and the United States) for the first time. None could claim that the two "super" Powers had not reduced their forces to sufficiently low levels and all would therefore be confronted directly by their rhetoric and promises of participation in the disarmament process that they made in the past. It may be that London, Paris, and/or Beijing will refuse to play. But in that case, the onus would be on them for the first time to explain to the international community why nuclear disarmament is good for Washington and Moscow but not for them. Confronted with this political reality, as well as the concerted effort by the United States and Russia to emphasize the growing irrelevance of nuclear weapons as instruments of international power and prestige, Britain, France, and China may find it difficult to oppose the course proposed here.

Conclusion

The end of the cold war demands a radical reassessment of the role of nuclear weapons in international politics. To date, the major nuclear Powers have begun a process that is slowly bringing them down the thermonuclear ladder both ascended, often with precious little thought, during 40 years of confrontation. Old habits of thinking may have convinced many that the United States and Russia are now approaching the very bottom of the ladder. But even after agreed commitments have been implemented, both countries will deploy nearly 7,000 strategic nuclear weapons, as well as thousands more non-strategic weapons.

The integrity of the NPT regime demands that the nuclear Powers go further down the thermonuclear ladder. Getting from here to there is by no means an easy task. The details of the phased arms control strategy proposed here make this clear. But success or failure will not be determined

by these details; instead, success is possible only if we all abandon old habits of thinking about nuclear weapons, deterrence, and arms control. The time to start is now.

Note

1 Bruce Blair, *The Logic of Accidental Nuclear War* (Washington, DC: Brookings Institution, 1993), p. 272.

Nuclear Non-Proliferation: The Current Context

Jayantha Dhanapala

Nuclear non-proliferation encompasses a vast and daunting field. In reality it requires a survey of the entire gamut of contemporary international security and disarmament issues because all of them impinge on the possession or self-denial of what is still the most awesomely destructive weapon—the nuclear explosive device.

In a philosophical sense we have to look at the human condition to see what links the current context with the past. We have still not arrived at a global consensus on the pacific settlement of disputes and the universal applicability of the renunciation of resort to weapons. Perhaps we never will. National security and its defence have a mystical aura and are frequently invoked to justify the possession and use of arms notwithstanding the noble principles of the Charter and in particular Article 2, paragraph 4, on abjuring the threat or use of force. Article 51 recognizes the "inherent right of individual or collective self-defence if an armed attack occurs", implying the right to possess and use arms for defence. No norms govern or limit this right until the Security Council acts, except through peace, non-aggression, disarmament and arms limitation treaties of a multilateral and a bilateral nature. Hence the international legal loopholes through which the

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armoured tanks of *realpolitik* roll. Blurred distinctions between offensive and defensive arms capabilities and between the wait for an actual occurrence of an armed attack or the pre-emption of a putative plan for attack help this assertion of the obsolete Clausewitzean concept that war is an extension of politics by other means.[1]

Given this reality, those of us who work conscientiously towards the achievement of that universally agreed objective of "general and complete disarmament under effective international control", as stated in the Final Document of the Tenth Special Session of the General Assembly (SSOD I)[2] must focus on the need to circumscribe, in an equitable manner, the use of force in international affairs through the extension of the rule of international law. The conclusion of verifiable treaties to eliminate or limit various categories of weapons is clearly a viable route to pursue. The success of this course of action has been proved, although recent revelations of treaty violations and clandestine development of nuclear weapons have shaken our complacency and forced us all into tougher verification measures and sanctions.

It is in this context that we have to look at nuclear non-proliferation for our time and for the twenty-first century. The importance we must ascribe to nuclear weapon non-proliferation as against other forms of weapon proliferation—on which work must surely go on—is self-evident. The Final Document—which has not been superseded and which remains, at the conceptual level, a valid and relevant consensus document 15 years after its adoption—was unequivocal in its identification of the priority task of undertaking nuclear disarmament.

> "47. Nuclear weapons pose the greatest danger to mankind and to the survival of civilization. It is essential to halt and reverse the nuclear arms race in all its aspects in order to avert the danger of war

involving nuclear weapons. The ultimate goal in this context is the complete elimination of nuclear weapons"

The need to maintain this priority task remains simply because no other weapon has the destructive power to raze mankind and its achievements forever. Another important principle in the Final Document is that "an acceptable balance of mutual responsibilities and obligations for nuclear and non-nuclear-weapon States should be strictly observed" (paragraph 30).

Our task then is to assess what elements in the present international context influence the commonly desired objective of achieving the non-proliferation of nuclear weapons. The nuclear non-proliferation regime that exists today has as its centre-piece the nuclear non-proliferation Treaty, which came into force in 1970. With the Fifth Review Conference and the extension of the NPT due in 1995, it is timely to evaluate its possible role in the changed international context of today if we wish to carry the NPT into the twenty-first century.

In comparing and contrasting the world scene at the time of the conclusion of the NPT and today, the obvious difference is that we have moved from the cold war of a bipolar world situation into a more pluralistic world society uni-polar in politico-military terms but multi-polar in the increasingly crucial politico-economic area. That has immediately distanced the prospect of global war, especially nuclear war. It has also seen the dismantling of nuclear arsenals. The cumulative effect of the 1987 INF Treaty, the 1991 START Treaty and the bilateral United States-Russian agreement of 1992 is that we will have a 70 per cent reduction of nuclear warheads by the turn of the century. A de facto moratorium on nuclear testing and good prospects for a very low threshold testing arrangement, if not a CTBT, are also gratifying. Thus

major advances have been made in arresting and reversing the vertical proliferation of nuclear weapons.

Certainly there is more that can be done. With the advantage of having all five declared nuclear-weapon States within the fold of the NPT, the obligations of article VI of the Treaty and security assurances to non-nuclear-weapon States could be made applicable to all of them so that more progress is achieved. The actual conclusion of a CTBT is another major achievement that can realistically be expected now. What remains disturbing is that the plutonium and highly enriched uranium released through implementing the bilateral nuclear disarmament treaties that have been concluded is being stored under national control. There is no guarantee that this material will not be recycled into missiles in the future. The time is opportune therefore for a revival of the Baruch Plan and for IAEA to take charge of this fissile material.

The end of the cold war resulted in the sketching out of many possible global scenarios. We have seen the Fukuyama "End of History"[3] thesis justify a Western triumphalist approach. "Imperial overstretch"[4] has been another explicative approach. Barry Buzan[5] has outlined the possibility of a "civilizational cold war" between the now dominant North (the centre) and a subordinate South (the periphery), as if the end of East-West confrontation must inevitably be followed by a North-South stand-off. Unfortunately these views do not see the world as the totality that it is—nor do they all look at peace and security in their complex multi-dimensional character. This is the first prerequisite in the global security agenda. What we may be actually witnessing is a transition towards non-ideological nineteenth century balance-of-power politics, which makes our task of nuclear non-proliferation perhaps as onerous as in the cold war era.

Another significant change over the period since the NPT has been in existence is the resurgence of nationalism

that is manifesting itself around the world, often in militant forms. While this is clearly an inevitable trend after the containment of nationalist sentiments through the cold war structures of Europe—NATO and the Warsaw Pact—what is dangerous is the escalation of crisis situations and the eruption of dormant disputes, mainly over territory. In the absence of durable political solutions, these could lead extremists to arm themselves with nuclear weapons as the ultimate security solution. We need therefore to have all the new States formed after the fragmentation of the former Soviet Union and the former Yugoslavia enter the NPT regime. The majority of them have already done so, but in the case of those which have not done so, disquieting statements have been made that do not augur well.

Linked to this trend is the sudden unloading of nuclear weapon expertise with the dismantling of nuclear arsenals, especially in the former USSR. This and the deteriorating economic conditions there could tempt many scientists to be lured by bidders for their services. Some band-aid solutions have been attempted with funds being established to pay these experts. Mercenaries are created by the demand that exists for their services. This demand has to be monitored more closely and reported to the Security Council for action to be taken.

I have already referred to the weakening of the NPT by violations. A further weakening took place recently by the withdrawal (now suspended) of the DPRK from the NPT in the exercise of its rights under article X, paragraph 1. While one hopes that diplomatic efforts, especially by countries in the region, will continue in order to persuade the DPRK to return to the NPT fold and its treaty disciplines, we may need to prolong the stipulated three-month period of notice through informal arrangements. Equally worrisome is the laying of preconditions by some of the new States for entering the NPT.

The current international context has seen the continued attraction of nuclear-weapon status for many States, although the reluctance of the threshold States to cross the threshold and declare themselves overtly nuclear-weapon States does say something for the normative strength of the NPT. Significantly, the examples of the reunified Germany and of Japan have done more for the cause of nuclear non-proliferation than the nuclear-weapon States. Admittedly, they enjoyed the shelter of the United States nuclear umbrella through security arrangements with that super-Power during the cold war. However, the pursuit of economic strength and the conscious rejection of nuclear-weapon status is admirable. The economic success of these two countries, temporarily slowed by recession, should be a beacon to all non-nuclear countries within and outside the NPT. Japan has significant territorial disputes with Russia and other problems with China and the United States for which nuclear power parity may have been a tempting strategy. That this has been firmly rejected is a healthy example.

The emergence of democratic regimes in Eastern Europe and the former USSR has illustrated the reassertion of popular participation and civil societies throughout the world. The conclusion of international treaties is a State function for which democratic societies obtain popular mandates through various means. Consequently the process of extending a treaty should be a transparent exercise, and the debate for a meaningful extension of the NPT in 1995 should therefore be a public one, involving non-parties to the Treaty, inter-governmental organizations, non–governmental organizations, the media and others. It is also necessary, as in the case of global issues like human rights, environment and development, that people's groups like NGOs should be permitted to observe the preparatory process of global conferences. No one is trying to extend the NPT by stealth. There are cogent reasons for an extension, and they can and should withstand public scrutiny and debate. Any attempt to conduct the

preparatory process in an exclusive manner will unfortunately convey a hint of a clandestine exercise by a few powerful States—a situation repugnant to the contemporary mores of openness and free discussion.

There is also a danger of approaching the 1995 Conference as though it were Armageddon. I am confident that the consensus that will emerge will be the right one for our time. I cannot see any State party to the NPT not wanting the extension of the Treaty. Whether all would agree to "an unconditional and indefinite" extension is not certain. There are fundamental issues involved which will need careful consideration as we approach 1995. Do nations wish to freeze for all time the present monopoly of five Powers on nuclear weapons? On the other hand, will the inherent tensions in the NPT arising from the original political compromise endanger the longevity of this international legal barrier to nuclear-weapon proliferation? Nations are entitled to ponder over these issues and make their own decisions. Whatever those decisions may be, the NPT must be strengthened because the world is indisputably safer with fewer nuclear-weapon States and nuclear weapons than with more of the same.

There are many ways to strengthen the Treaty, responding to the lessons we have learnt from the recent past. The need to tighten supervision of compliance is one area. IAEA has already acted to fulfil its responsibilities under INFCIRC/153 agreements on safeguards, particularly through special inspections. Adequate provisions exist for IAEA, with the objective and non-partisan cooperation of States which have their own national technical means, to discover clandestine violations of the Treaty which could be reported to the NPT parties and to the Security Council.

Controls on the export of nuclear material which were agreed at the 1990 Review Conference need to be endorsed and, if possible, added to. This must have the sanction of the

entire Conference of NPT parties and not remain a decision of only the exclusive Nuclear Suppliers' Group. Other areas include security assurances to non-nuclear-weapon States, assistance to developing countries in the peaceful uses of nuclear energy, agreed universal guidelines on transfer of technology and support for IAEA.

We must also be conscious of the fact that there can be genuine believers outside the church. In other words, very conscientious adherents of the principle of nuclear weapon non-proliferation could be outside the NPT in regional arrangements like the Treaty of Tlatelolco. The example of Brazil and Argentina is outstanding—two countries which have voluntarily renounced the nuclear weapon option and have entered the Tlatelolco process as provided for in article VII of the NPT. Some aspects of the NPT may present major difficulties for sovereign countries which would, however, be ready to enter into a regional arrangement to renounce the nuclear weapon option on the basis of equitable obligations. There is a qualitative difference between such States and those which merely make unilateral statements on nuclear non-proliferation.

Many elements in the current world situation require us to strengthen the norms against both vertical and horizontal nuclear weapon proliferation. The most important of such norms is the NPT, to which almost seven-eighths of the United Nations membership subscribes. The process of preparing for the extension of this important Treaty must be undertaken with careful diplomacy, absolute transparency and candour, and guarantees of an equitable outcome mutually beneficial to all parties. We have four sessions of the Preparatory Committee spread over two years to do this, together with inter-sessional consultations. Unnecessary disputes on procedural and conference management issues must be avoided in the interest of ensuring a climate conducive for the

constructive discussion of the substantive issues when they come up.

A new world order cannot be fashioned according to the national interests of a few. It has to be a collective exercise democratically decided upon. The extension of the NPT will be such an exercise, and I am confident that we will all be in a safer world as a consequence of it.

Notes

1 K. Clausewitz, *On War*, translation by O. J. Matthijs Jolles, (New York, Modern Library, 1943), p. 596. (1943).

2 *Official Records of the General Assembly, Tenth Special Session, Supplement No. 4* (A/S-10/4), sect. III, paragraph 19.

3 Francis Fukuyama, "The end of history", *The National Interest* (Summer 1989), pp. 3-18.

4 Paul Kennedy, *The Rise and Fall of the Great Powers*, (London, Unwin Hyman, 1988) House (1987).

5 Barry Buzan, "New patterns of global security in the twenty-first century", *International Affairs* 67, 3 (1991). See also Samuel Huntington, "The clash of civilizations", *Foreign Affairs*, 72, 3 (1993).

Non-Proliferation Issues and the Future of the NPT

Mitsuro Donowaki

The return of a nuclear nightmare

How much time is left before a nuclear holocaust and the end of the world? Only three or four minutes! This was the answer given in the early 1980s, during the first Administration of President Reagan, according to the "nuclear clock" published in the *Bulletin of the Atomic Scientists*, representing the anxiety of the general public at the time. However, the clock was set back to ten minutes before the zero hour in 1990 when the wave of democratization swept across Eastern Europe and the cold war came to an end. In 1991, when START I was signed and the former Soviet Union collapsed, the clock was set back to seventeen minutes before the hour, indicating the great relief felt by people all over the world.

However, the good news did not last long. Has the danger of a nuclear war diminished today, only two years afterwards? The answer is, regrettably, "No". Rather, the danger is growing. Let me illustrate this.

First is the suspicion about the nuclear activities of the Democratic People's Republic of Korea (referred to here as North Korea). Although North Korea acceded to the NPT in

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1985, it failed to conclude any safeguards agreement with IAEA for a long time, giving rise to this suspicion. After various dealings, the situation had improved by the beginning of 1992, when a Joint Declaration of the Denuclearization of the Korean Peninsula,[1] providing for mutual inspections in order to resolve nuclear suspicion, was signed between North and South Korea, and when North Korea concluded a safeguards agreement with IAEA. But again, the good news did not last long. The talks to implement the mutual inspections between the North and South were stalled almost as soon as they started, and have gone nowhere for more than a year.

As for IAEA inspection, six ad hoc inspections have been conducted since May 1992 with respect to facilities declared by North Korea. Reportedly, discrepancies were found between the data submitted by North Korea and that obtained by the inspectors concerning the composition and amount of plutonium. Thereupon, the IAEA Secretariat decided to request a "special inspection" of two undeclared sites near Yongbyon in North Korea. The North Korean response to this request was a flat "No". On 25 February 1993, the Board of Governors of IAEA adopted a resolution supporting the IAEA Secretariat's decision to request a special inspection, and called upon North Korea to comply with the request by 25 March. The North Korean delegation denounced the resolution on the spot and then, on 12 March, without waiting for the deadline, North Korea announced its decision to withdraw from the NPT—a severe challenge to the international nuclear non-proliferation regime.

On the other hand, according to the testimony made by Director Woolsey of the United States Central Intelligence Agency before the United States Senate on 24 February, there is "the real possibility that North Korea has already manufactured enough fissile material for at least one nuclear weapon". Furthermore, North Korea has a new type of Scud missile with a range over 1,000 kilometres, and has sold such missiles to

Iran and Syria. Therefore, according to Director Woolsey, "a North Korean nuclear weapon would threaten both our allies in all of Asia and US forces as well". This certainly is a serious situation. It is only natural that suspicion regarding the North Korean nuclear capability has been one of the central issues in the normalization talks between Japan and North Korea that have been going on for the last two years. The head of the Japanese delegation to these talks, Ambassador Tadasu Nakahira, has now been succeeded by Ambassador Tetsuya Endo. The latter served as Japanese Head of Delegation to IAEA until one year ago, and also had the experience of serving as the chairman of the IAEA Board of Governors. One may say that this was an appointment of the right person to the right post.

Another example of the state of the nuclear non-proliferation regime concerns the suspicions regarding the nuclear capacity of India and Pakistan. Both countries deny possessing nuclear weapons and affirm that they have no intention to do so. On the other hand, it is common knowledge today that, whenever they wish, they could possess them within a very short period of time. In fact, leaders of both countries do not bother to deny the fact that they have the technical capability to develop nuclear weapons. They fear that abandoning the nuclear option might seriously undermine their national security interests. What is required of us is to take these cold facts as they are, and to try to think, together with them, what practical ways can be found to keep them from going over the threshold and to induce them to step back from it. As is well known, India and Pakistan are parties to a long-standing dispute over the question of Kashmir. There is always the danger that this smouldering dispute could turn into an open conflict, and thus the question regarding the possible use of nuclear weapons could arise. The tragedy for over a billion inhabitants of the region would be immeasurable. This is not the time for the rest of the world, including Japan, to sit back and look on while doing nothing.

Concerns about our northern neighbours never go away

Third, there is a case of an even more serious nature, relating to the proliferation threat in the territory of the former Soviet Union. It is estimated that over 30,000 nuclear warheads exist in the former Soviet Union. Most of them appear to have been transferred to the Russian Federation, except for about 3,000 strategic nuclear weapons left in the republics of Ukraine, Kazakhstan and Belarus, out of a total of about 10,000 strategic nuclear weapons. Fortunately, START I, its Protocol, and START II have been signed. Once these treaties have been ratified, about 4,000 strategic nuclear weapons, including those located in the three republics other than the Russian Federation, would need to be dismantled within seven years after the entry into force of START I. An additional 3,000 strategic nuclear weapons would be dismantled by 1 January 2003, so that only about 3,000 would remain. It is said that the Russian Federation is capable of dismantling about 2,000 nuclear-weapon warheads annually. Therefore, assuming that Russia continues to dismantle these warheads at its full capacity, and that the warheads of tactical nuclear weapons will also be dismantled, we get the figure of about 3,000 strategic and 7,000 tactical nuclear weapons left for future dismantlement after 2003. Leaving aside the question of whether Ukraine will indeed ratify START I, the really big question before us is whether the Russian Federation can be relied upon to dismantle and exercise control over so many nuclear weapons in the next ten years and beyond in view of its crippled national authority as compared to the strong national control that the Soviet Union had, and in view of its protracted domestic political and economic problems. What if, for example, the Russian Federation were to be subdivided, as was the Soviet Union, into smaller units of Russians and non-Russians? What would then happen to the nuclear weapons located there? What if national control over

these weapons became weaker? Is there a risk they would be smuggled out for money or stolen by terrorists? What if, on the contrary, the Russian Federation turned into a military dictatorship less sensitive to international responsibilities? Historically, we have seen czarist Russia and the Soviet Union grow powerful and then collapse. Whatever happens, concerns about our "northern neighbour" do not seem to go away easily.

In this connection, it may be necessary to re-evaluate the merits of the START negotiations. Habits of thinking from the cold war days make us applaud the achievement of START II, by which the number of strategic nuclear weapons is to be reduced by two thirds. As a matter of fact, the United States–Soviet or United States–Russian negotiations on the reduction of strategic nuclear forces were aimed at achieving stability at lower levels of these weapons by reducing or dismantling the launchers capable of reaching the North American continent or the former Soviet Union. The number of nuclear warheads may have been a subject of negotiations for reduction, but the dismantlement of warheads *per se* has never been made a subject of negotiation. This was only natural since the two super-Powers were geographically located far apart, and negotiations for the dismantlement of launchers would achieve the objectives of the talks. However, for other nations, there is no distinction between the danger of strategic or tactical nuclear weapons, and there can be no effective nuclear disarmament without the dismantlement of warheads!

Fortunately, the United States and the Soviet Union made unilateral declarations in the autumn of 1991 by which they announced the withdrawal and dismantlement of most of their tactical nuclear weapons. It was just at the time the two nations proceeded to implement those declarations that the Soviet Union collapsed, giving rise to the risk of the proliferation of the weapons left there. As was already pointed

out, about 10,000 nuclear warheads will remain untouched in 2003, even if we assume that everything goes well with the dismantlement programme in the former Soviet Union. Unlike the 13 kiloton or 22 kiloton bombs of Hiroshima and Nagasaki, they include a number of one-megaton-type bombs such as the one China experimented with in May 1992. A one-megaton-type bomb is equivalent to about 80 Hiroshima-type bombs in its desructiveness. Mishandling of just one of those would constitute a major disaster. On the other hand, as regards the some 20,000 warheads to be dismantled by 2003, assuming that everything goes well, the result will be nothing other than a large amount of weapons-grade plutonium and highly enriched uranium. Eight kilograms of the former, and fifteen kilograms of the latter would be sufficient to manufacture a nuclear weapon. Therefore, the utmost care will be required throughout the process, from the stage prior to the transportation of warheads to dismantlement sites until after their dismantlement. The States in the territory of the former Soviet Union are requesting the United States and other Western nations to come forward with technical and financial cooperation to assist in this process.

Transformation of the "enemy"

The proliferation threat of today is not limited to nuclear weapons. As a result of the war in the Persian Gulf, still fresh in our memory, the United Nations inspection teams are engaged in the monitoring and destruction of chemical weapons and related facilities in Iraq in addition to nuclear-weapon-related facilities. Iraq's initial chemical weapons declaration to the United Nations of about 10,000 munitions and less than 1,000 tons of chemicals has now grown to about 150,000 munitions and 5,000 tons of chemicals. It is almost a miracle that none of this stock of weapons was actually used during the Gulf coaflict. Taking a lesson from such events, the chemical weapons Convention, which has been negotiated for

the last two decades in Geneva, was finally signed in Paris in January of this year by 135 nations. The Convention is expected to enter into force within the next two years.

The danger of proliferation goes beyond nuclear and chemical weapons. Missiles and related technology or conventional weapons with high technology applications are also matters of concern. For example, Pakistan is flooded with refugees from the decade-long internal strife of Afghanistan. As a consequence, even the weapons of armed robbers were modernized. Missiles started to be used to attack railway stations and trains so that the crime situation got completely out of hand and could not be contained by any police force. Military forces had to be introduced to restore order. According to the testimony (referred to above) of Director Woolsey of the CIA before the United States Senate, the effectiveness of advanced conventional weapons demonstrated during the war in the Persian Gulf had the effect of encouraging the proliferation of those weapons. For example, anti-ship cruise missiles employing countermeasures and precision guidance have already been deployed by such nations as Iran, Syria and Libya. Increasingly advanced surface-to-air missiles, with enhanced anti-stealth capability, are also beginning to proliferate. It is said that there is a sharp increase in the demand for such high-technology weapons, and that there is no lack of suppliers of these weapons.

The interest of the world in the question of non-proliferation of weapons grew rapidly in inverse proportion to the process of cessation of the cold war. This is clear when one reviews the chronology of non-proliferation-related events. During the cold war days, military assistance to allies was regarded as "good", and the supply of weapons and related technologies to the enemy was regarded as "bad". Export controls under the COCOM regime were based on such an assumption. Non-aligned nations did not count because they were neutral and harmless. Thus, non-proliferation of

weapons was seldom a matter of serious interest in those days. Nuclear non-proliferation might have been an exception. In 1968, soon after the Chinese success in conducting a nuclear test explosion in 1964, the NPT was signed, and it came into force in 1970. It prohibits the possession of nuclear weapons by nations other than those five nations (coinciding with the five permanent members of the United Nations Security Council) that had succeeded in testing explosions by 1 January 1967.

When India succeeded in conducting a nuclear test explosion "for peaceful purposes" in 1974, major nuclear supplier nations initiated talks in London, and came to adopt the London Guidelines, which control mainly the export of nuclear materials. Suspicious nuclear activities conducted by such nations as India and Pakistan or by Israel, Iraq and North Korea might have been matters of some concern. However, they were almost negligible compared to the danger of a United States–Soviet nuclear showdown. Preventing the cold war from turning into a hot war, turning the confrontational relationship into that of dialogue, and seeing progress in United States–Soviet nuclear disarmament were the wish and dream of all mankind.

Finally, we were freed from the fear of a United States–Soviet nuclear war that had dangled over our heads by a thread like the sword of Damocles. Our dream came true! However, what awaited us was not a bright and rosy world. It turned out to be the continuation of a nightmare even more sinister, now multi-polar and gigantic in nature, taking the form of the threat of the proliferation of weapons of mass destruction and related technology.

Under these circumstances, the struggle against proliferation started to pick up speed. For example, in view of the changed situation, in which former enemies claim the status of allies, the COCOM export control regime began to relax its regulations in 1990, and a new industrial list focusing

upon more restricted dual-use items was worked out. Even a COCOM Cooperation Forum meeting encompassing former "enemy" nations came to be created. Clearly, COCOM is heading for a change.

At the same time, as was pointed out, the need for preventing proliferation of dangerous weapons and related technology has become a matter of great interest to a degree never foreseen during the cold war days. One may be tempted to ask if a new list of "enemies" could not be worked out, replacing the COCOM's old list of former enemies? If the new list were to include only those already sanctioned by United Nations resolutions and to which the export of arms is forbidden, such as Iraq, Libya, Serbia and Montenegro, it would not be too difficult to work out. However, if we are to include in the list others, such as North Korea, the task would not be so easy. Unlike the cold war days when "the enemy" was highly visible, subjective judgement as to which other nations are "risky" would differ from country to country. The exercise might turn into a kind of witch-hunt, and caution would have to be used in order not to exacerbate the North-South confrontation. In this connection, could it be that the international community has matured to such a degree that, as in a national community, criminal acts could be corrected without punishing a nation? Is it the act of spreading, accumulating and making use of such dangerous weapons and related technology that needs to be punished and not the nations engaged in such activities? In any event, this is one of the issues that the world today is urgently called upon to address.

United Nations Register of Conventional Arms

As is well known, Japan has maintained strict arms export controls over the years. In 1967, Prime Minister Eisaku Sato declared three principles on arms export, prohibiting arms exports to: communist bloc countries, countries subject

to embargoes under United Nations resolutions, and countries engaged in international conflicts. In 1976, Prime Minister Takeo Miki announced a Government Policy Guideline on Arms Export, which, in addition to the three areas specified previously, also restricts exports in accordance with the position of Japan as a peace-loving nation.

However, speaking in general terms, it is easy to talk about arms export controls, but extremely difficult to implement them effectively. Take, for example, the case of the talks between the five permanent members of the Security Council for the control of arms exports to the Middle East. Recognizing that about 85 per cent of arms imports by the Middle East nations in the five years prior to the war in the Persian Gulf came from these five nations, talks were initiated in Paris in May 1991, immediately after the war, and continued on in London and Washington. The talks appeared to be nearing success when, in the autumn of 1992, China denounced the sale of F-16 fighter planes to Taiwan announced by President Bush and the sale of Mirage fighter planes to Taiwan by France, calling them "acts of interference in the internal affairs of China", and began to boycott the talks. It is interesting to question whether there can be an effective method to control arms exports in a situation where the United Nations Charter itself recognizes the right of its Member States to individual and collective self-defence. The more arms exports are restricted, the more "exports" may be conducted under the guise of "internal transaction" by multinational enterprises, or under the guise of "licensed production" in the importing countries. Even if some of the supplier countries of arms, such as the Security Council permanent members, succeeded in agreeing on certain export control measures, this would also result in offering unexpected profits to suppliers outside of such an agreement. Furthermore, there are States which find arms exports to be the easiest way to earn valuable hard currency. More importantly, when we look at the rapid pace of

scientific and technological developments, it may be almost impossible to achieve an effective control over the exports of arms and related technologies.

It is encouraging, under such circumstances, that the United Nations Register of Conventional Arms was established in order to bring more transparency to arms transfers. The Register came to be established by United Nations resolutions of 1991 and 1992, adopted with overwhelming concurring votes as a result of determined initiatives taken by Japan, the European Community nations and others. The Register may be regarded as a very modest but firm step forward for the future control of arms exports. Also, the establishment of the Register was welcomed by the world community as an epoch-making measure for global confidence-building.

Japan's contribution in the field of disarmament activities in the post–cold war era is not limited to support for the establishment of the United Nations Register. Much has been done also in the field of nuclear non-proliferation. Until the end of the cold war, the NPT, the IAEA safeguards and the London Guidelines appeared to be sufficient for the purpose of preventing proliferation of nuclear weapons. However, following the Persian Gulf conflict, it became clear that Iraq had been able to carry out its clandestine nuclear activities to an unexpected degree in spite of the routine IAEA inspections it received. Consequently, nuclear supplier nations got together in 1991 for the first time in the 13 years following the establishment of the London Guidelines and, in 1992, agreed upon part II of the London Guidelines regulating the export of nuclear-related dual-use goods and items that could be used both in nuclear and non-nuclear fields. Also, it was agreed among those States that future exports or cooperation in the field of nuclear activities with a third country would be made conditional on the latter's acceptance of IAEA full-scope safeguards. The choice of Japan as the contact point or the

secretariat for the newly-established London Guidelines, part II, gave recognition to Japan's determined efforts in promoting nuclear non-proliferation.

Revival of the IAEA special inspection mechanism

In addition, as a result of energetic efforts made by Japan and other nations, the IAEA Board of Governors took a decision early in 1992 to reactivate the special inspection mechanism that had seldom been used in the past. It was generally believed that the IAEA inspections would be conducted only with respect to declared facilities and sites. However, after the Iraqi experience, the view came to prevail that unless IAEA was empowered to inspect undeclared sites suspected of clandestine nuclear activities, the *raison d'être* of IAEA would be lost. In this way, the special inspection mechanism was revived. Difficulties inherent in this mechanism were pointed out also. For example, how would IAEA address doubts about clandestine nuclear activities in facilities and sites not declared by its member States? Therefore, it had to be reaffirmed that special inspections could not be forced upon a member State. In such a case, however, it was agreed that the case would be referred to the Security Council as a case in which IAEA "could not establish the non-existence of the diversion of nuclear materials for military purposes". The Security Council Summit Meeting held in January 1992 echoed this in its presidential statement that "the Members of the Council will take appropriate measures in the case of any violations notified to them by the IAEA".

As a result, encouraging developments took place. Inspections by IAEA with respect to undeclared facilities and sites in Iran and South Africa were carried out successfully. It was under just such circumstances that the North Korean decision to refuse the special inspection requested by IAEA

and to withdraw from the NPT was announced. There is virtually no support from the international community for the move made by North Korea. Not to speak of the Western industrialized nations, the position expressed by China, for example, to the effect that the question had to be resolved through talks with a view to strengthening the NPT non-proliferation regime, seemed to differ in its nuance from the position taken by North Korea. In India, the news of North Korean withdrawal from the NPT came on the very day of its bilateral talks with Japan on non-proliferation issues. Even India, which is not a party to the NPT, was of the view that, once North Korea decided to accede to the Treaty, it should comply with the obligations it accepted under it. For this reason India supported the decision of 25 February of IAEA's Board of Governors, of which India is a member. To honour international commitments is the minimum norm a member of the international community is expected to observe. Therefore, it is very encouraging that North Korea has given due attention to the the opinions of the international community and has reconsidered its decision to withdraw from the NPT.

Extension of the NPT: indefinite or definite

As the cold war came to an end, a series of measures were taken to strengthen the nuclear non-proliferation regime at the initiative of Japan and other like-minded nations. Such efforts happily coincided with the increase in the number of States parties to the NPT. Over a dozen nations acceded to the Treaty during the last two years, bringing the number to above 155. Of particular significance was the accession by China and France, the two nuclear-weapon States which had stayed out for nearly a quarter of a century. Indeed, the NPT is just about the only international agreement which, while prohibiting possession of nuclear weapons to other than the five recognized nuclear-weapon States parties, obliges all its member States, including the five nuclear-weapon States, to

negotiate nuclear disarmament. The fact that China and France undertook such an obligation should be recognized as an epoch-making development. It has been written that Japan's efforts to persuade China to join the NPT were ridiculous because a "discriminated against" nation took the trouble to persuade a "discriminating" nation to join a treaty that was "out-dated, unequal and discriminatory". Such an argument is far from being relevant. As a result of the increase in the number of States parties to the NPT, only a handful of nations—such as Algeria, Argentina, Brazil, Cuba, India, Israel, Kazakhstan, Pakistan, and Ukraine—are still outside.

Of this group of States, Argentina and Brazil signed a full-scope safeguards agreement with IAEA at the end of 1991, and are taking steps to ratify the Treaty of Tlatelolco. In this way, suspicion regarding the nuclear activities of these two nations has become a thing of the past. The safeguards agreement, signed between Argentina and Brazil, IAEA and the Brazilian-Argentine Agency charged them with ensuring implementation,[2] and provides for safeguards on all nuclear material in all nuclear activities of both countries and for verifying that such material is not diverted to nuclear weapons or other nuclear explosive devices; it thus create a precedent that could be of interest in other regions of the world.

Twenty-five years after the entry into force of the NPT, which means in the spring of 1995, a Conference will be convened to decide, in accordance with the provisions of the Treaty, on the length of its future extension. The first session of the Preparatory Committee for this Conference met in New York in May 1993. Debates on the issue of the extension of the Treaty are already taking place. According to the provisions of the Treaty, the length of its extension will be decided by a majority of the parties choosing one of three options: "an additional fixed period" (of 10 years, for example), "fixed periods", or "indefinitely". Even if, hypothetically, the majority of the States parties out of the more than 155 were of

the view that the NPT should not be extended, they could not make such a decision in accordance with the provisions of the Treaty. They would have to resort to extending the Treaty for a short "fixed period" of time.

Consequently, the debates taking place are concentrating at this stage on the question of whether the Treaty should be extended "indefinitely" or for a "definite" period. The main reasons given for arguing against an "indefinite" extension, and for a "definite" extension are that the NPT is an "outdated, unequal and discriminatory" treaty. It is alleged that the Treaty is "outdated", having failed to prevent the proliferation of nuclear weapons, and thus does not deserve "indefinite" extension. It is also alleged that the Treaty is "discriminatory", giving privileged status only to the five nuclear-weapon States, and thus should not be extended indefinitely. Another argument often put forward on occasions such as the NPT Review Conferences is that the nuclear-weapon States have not lived up to their obligations under the Treaty to "negotiate in good faith" nuclear disarmament. Thus it is argued that the international community should put pressure on these States by asking them to take certain nuclear disarmament measures, including a comprehensive ban on nuclear-weapon testing, within a limited time-frame. It is argued that if such a commitment is not being honoured, a long-term extension should not be taken for granted. From this perspective, an "indefinite" extension of the Treaty is not desirable.

The big question of a "discriminatory" NPT

Let me begin by taking up the last point first. I attended the Fourth NPT Review Conference, held in 1990, as Head of Delegation of Japan. In drafting a final document summarizing the results of the Review Conference, inclusion in the document of certain ideas became a big issue. The

wording was meant to assert that the conclusion of a comprehensive nuclear test ban treaty would be important for the strengthening of the non-proliferation regime under the NPT. Mexico and some other non-aligned nations argued for the inclusion of such a phrase in the final document, while two nuclear-weapon States, the United States and the United Kingdom, as well as a number of Western nations, argued against the inclusion. Desperate attempts were made to work out toned-down compromise language that could accommodate the positions of both sides. Towards the end of the Conference, the attempts to find a compromise went on for four sleepless nights and five days, but the Conference had to adjourn at about 5 a.m. without being able to adopt a final document. At the time, two other nuclear-weapon States, China and France, were not yet parties to the NPT. The presence of another nuclear-weapon State, the Soviet Union, was not very much felt due to the wave of political change and democratization that was sweeping across Eastern Europe.

It is often said that the 1985 NPT Review Conference was a success and the 1990 Conference was a failure because the former could adopt a final document and the latter could not. This does not accurately reflect reality. Actually, the 1990 Review Conference was the most fruitful and substantial of all the Review Conferences held so far. For example, the Third Committee of the 1990 Review Conference, which dealt with the peaceful uses of nuclear energy under the chairmanship of Ambassador Chusei Yamada of Japan, adopted by consensus a report that was supposed to form a portion of the final document. Even today, this report is regarded as a valuable document showing ways to strengthen the nuclear non-proliferation regime.

Some nations maintained that a comprehensive nuclear test ban would effectively prevent "vertical" proliferation (a qualitative improvement of nuclear weapons), which was more dangerous than "horizontal" proliferation (an

increase in the number of nations having nuclear weapons), and would also facilitate the reduction of nuclear weapons. In the days when the United States and the Soviet Union were engaged in a dangerous arms race in nuclear weaponry and the rest of the world could do nothing about it, such an argument might have had certain persuasive force.

However, in today's world, in which the cold war has come to an end and the Soviet Union no longer exists, and in which China and France, the two nuclear-weapon States which stayed out for such a long time, have joined the NPT, we should, I would propose, ask ourselves whether the approach taken during the cold war can still be relevant. Even at the time of the 1985 NPT Review Conference, the Final Document adopted by it contained a paragraph which stated that there were views that placed a comprehensive nuclear test ban ahead of the reduction of nuclear weapons, and also views that placed the reduction of nuclear weapons ahead of a comprehensive nuclear test ban. The Mexican delegation to the 1990 NPT Review Conference took the position that such a wording in the Final Document amounted to the admission of the absence of consensus, and that the precedent of 1985 should not be repeated. In this way, the type of final document that it had been possible to adopt in 1985 became impossible to adopt in 1990.

When the Conference is held in 1995, it will fill the function of both a fifth NPT review conference and an extension conference. It is not yet clear what position will be taken by Mexico and some other non-aligned nations. It may well be that they will adhere to the position that a comprehensive nuclear test ban is the precondition to a long-term extension of the NPT. Also, in view of the recent steps taken by the United States, Russia and France in the field of nuclear-test explosions, it is possible that the parties to the NPT will insist that certain nuclear disarmament measures should be taken not only by the United States and Russia, but

also by China and other nuclear-weapon States as a precondition to a long-term extension of the Treaty.

Such an approach to the issue, however, is based on the assumption that it should be possible to make the nuclear-weapon States commit themselves to some nuclear disarmament measures by making a hostage of the question of the extension of the NPT. There might be room for defending such an approach as a political tactic. But, in today's world, in which China and France are already parties to the NPT, the Soviet Union no longer exists, and there is an imminent danger of "horizontal" proliferation of nuclear weapons, such an approach would be too risky and unrealistic. The NPT cannot be amended, according to its provisions, without the consent of all the nuclear-weapon States parties to the Treaty (China, France, Russia, United Kingdom and United States). Therefore, any attempt to force by a majority vote the nuclear-weapon States to accept certain obligations that go beyond those provided for in the NPT, amounting to the amendment of the Treaty, cannot create legally binding obligations. Such would be the case of urging nuclear-weapon States to carry out certain nuclear disarmament measures within a fixed time-frame.

Suppose that the NPT were extended by 10 years, and that its further extension were made conditional upon the realization of certain concrete nuclear disarmament measures by the nuclear-weapon States within that period. Such an arrangement would not work unless it was understood that the NPT could be terminated after 10 years, legalizing nuclear proliferation thereafter. This is a risky idea and, at the same time, is clearly a form of bluffing. The danger of nuclear proliferation today is already too serious to be dealt with by bluffing.

India, Brazil, Argentina and others have long held that the NPT is a discriminatory treaty, and that, unless its

discriminatory nature is removed by amendment, they will not accede to it. In Japan, also, the discriminatory nature of the Treaty was questioned. Both at the time of its signature and its ratification, the Japanese Government clarified its position on this question by issuing statements to the effect that the Treaty permitted only the nuclear-weapon States to possess nuclear weapons and that "this discrimination" should ultimately be made to disappear through the elimination of nuclear weapons by all the nuclear-weapon States. There is no difference between the position of India and that of Japan in the sense that both want the discriminatory nature of the Treaty to be rectified. India wants to achieve this by staying outside of the Treaty, while Japan wants to do so from within, by urging as many nations as possible to accede to the Treaty in order to realize universal adherence, and by urging the nuclear-weapon States to pursue nuclear disarmament. In fact, the United States–Soviet, or the United States–Russian nuclear disarmament talks could achieve significant progress. As for China and France, they only recently joined the NPT, but this fact should be regarded as significant also. If we are to aim at the elimination of nuclear weapons, the time-frame for its realization becomes unclear when we look at the large number of nuclear warheads due for dismantling. If we are to talk about verifiable, complete elimination of all nuclear weapons, including those held by the so-called threshold nations, it would become even more difficult to foresee a time-frame for its realization.

Brazil and Argentina are of the view that they cannot accede to the NPT because of its discriminatory nature, but the earlier suspicion about their nuclear activities has now been resolved by their conclusion of full-scope safeguards agreements with IAEA, as mentioned earlier. However, unlike those two nations, India continues to fight the discriminatory nature of the Treaty by not giving up its option to become a nuclear-weapon State. India, which succeeded in a nuclear test

explosion after China, was not permitted to possess nuclear weapons because its test explosion took place a decade after China's and it was not a permanent member of the Security Council. Therefore, India may have a special sentiment concerning the discriminatory nature of the NPT. Also, the memory of the Sino-Indian border war may have some bearing on India's nuclear policies.

Options for Japan

Under these circumstances, one can consider the position which Japan should take with respect to the question of the extension of the NPT. Suppose Japan opposed an "indefinite" extension of the Treaty, and supported a "definite" extension for a specific time period on the grounds that the Treaty was discriminatory, and also in order to urge nuclear-weapon States to pursue nuclear disarmament. In this case, there would be no difference in Japan's position from that taken by Mexico and some of the non-aligned nations, or that taken by India. Also, such a move might give rise to speculations that Japan would perhaps wish to see the Treaty terminated and the possession of nuclear weapons legalized. Thanks partly to the recent transportation of plutonium by the *Akatsukimaru*, Japan's policy on the use of plutonium is now a matter of international attention. Therefore, it could be argued that the right option for Japan would be to come out in support of an "indefinite" extension of the Treaty, demonstrating Japan's firm resolve to uphold the cause of nuclear non-proliferation. Will there be any disadvantages if Japan decides to support an "indefinite" extension of the Treaty and not to insist on its "definite" extension? Japan's efforts to persuade nuclear-weapon States to pursue nuclear disarmament and to remove the discriminatory nature of the Treaty through such means cannot in any way be made more difficult as a result of an "indefinite" extension of the Treaty. At the same time, if extraordinary events threatened to jeopardize the supreme

interests of Japan, the right to withdraw from the Treaty with three months' advance notice is guaranteed under the provisions of the Treaty.

Of course, it is not possible to predict what will be the majority decision on the length of the extension to be taken at the Conference of States parties two years from now. However, it appears that there are no good reasons for Japan to withhold its support for an "indefinite" extension. This would be better from the viewpoint of strengthening and stabilizing the NPT regime. At the same time, there is a possibility that the majority of States parties may wish to extend the Treaty for a fixed period or periods. In such a case, an extension of the Treaty for several long-term periods would become Japan's preferred position as an alternative means of securing stability of the international nuclear non-proliferation regime.

Lastly, let me briefly take up the argument that the NPT has become "out-dated" or "obsolete" for purposes of preventing nuclear proliferation. This is exactly the reason that, as the cold war has come to an end, efforts are being made by Japan and other nations to strengthen the NPT regime. In the case of the Treaty itself, one cannot just throw it away for being "outdated" or "obsolete" as if it were an old coat, and don a new one.

Notes

1 Circulated as a document of the Conference on Disarmament (CD/1147).

2 Circulated as a document of the Conference on Disarmament (CD/1118).

Towards a Genuine Nuclear Non-Proliferation Regime

Miguel Marín-Bosch

Until 1945 the world was a nuclear-weapon-free zone. Since then it has been flooded with tens of thousands of nuclear weapons—on land, on sea and in the air. For almost fifty years the international community has been grappling with the problem of the existence of nuclear weapons, their possible use by some and acquisition by others. However, it has yet to agree on a clearly defined path with regard to these weapons of mass destruction .

To some, the cold war provided the needed rationale, if one dare speak of "rationale" in this context, for a nuclear-arms build-up. Bigger and better weapons were developed and more accurate missiles were deployed. Then smaller and better warheads were built. During the late 1940s and 1950s, diverse theories were advanced regarding the nature of these weapons and their possible use in war. As the so-called "nuclear club" grew, so did the fears of a further and further proliferation of such weapons. Individuals were accused of passing the secret of the bomb to others and nations were classified as to their real or perceived intentions "to go nuclear". By the late 1950s many countries were searching for a way to stop the spread of nuclear weapons. But, if one could perhaps prevent the physical acquisition of weapons, it was to

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prove impossible to halt the acquisition of the knowledge and know-how necessary to build them.

To others, the mere existence of nuclear weapons posed an unparalleled threat to the survival of mankind. Nuclear weapons were intrinsically evil and should therefore be banned. The enormous mushroom clouds of the atmospheric tests came to symbolize that evil. Doomsday scenarios were described in print, on film and in music, and the so-called "atomic alert" mentality invaded the classrooms of the principal nuclear-weapon States.

Over time the advocates of nuclear weapons—the defenders of the legitimacy of their role in international relations—began to lose ground. During the 1980s, at the height of cold war rhetoric, doubts were expressed with regard, not to the legitimacy, but to the *utility*, of nuclear weapons. As early as 1976, presidential candidate Jimmy Carter had referred to the "elimination" of nuclear weapons as a tangible goal. But that position was couched in rather moralistic terms, not unlike those used in United Nations General Assembly resolutions sponsored by those seeking to ban nuclear weapons altogether.

The debate regarding weapons of mass destruction

The approach that began to emerge in the early 1980s was different in that it was based on a utilitarian premise: did one really need nuclear weapons? That approach has evolved even further in the late 1980s and early 1990s and some milestones are obvious: the discussions between Presidents Reagan and Gorbachev at the 1986 Reykjavik Summit; the collapse of the USSR and the end of the cold war; and the experience of the war in the Persian Gulf.

It was, in fact, in the sands of the Middle East that United States military leaders learned something which only

some theoreticians had proposed earlier: a military force equipped with high-technology conventional weapons could defeat a large army that might even have chemical and other weapons of mass destruction. The lesson was clear and its effects were immediate: the United States decided to intensify the negotiations on a convention for the elimination of chemical weapons (CW). The idea here, as it had been in 1971 with regard to bacteriological (biological) weapons (BW), was rather simple: the United States was ready to give up unilaterally its CW stocks because it did not have any use for them; and the corollary was obvious—no one else should have them. The advantages of a BW-free and later a CW-free world outweighed the advantage of any possible military use of those weapons. Today we seem to be approaching a similar but perhaps not yet identical situation with regard to nuclear weapons. Does it make sense to maintain the enormous nuclear stockpiles of the 1980s? The answer is no, according to the 1991 and 1993 Strategic Arms Reduction Treaties (START I and START II).

The cold war logic, if indeed there was a logic to the cold war, has lost its underpinnings. Now, in Europe and elsewhere, there is a struggle between those leaders who continue to seek some sort of justification for maintaining nuclear weapons and those who feel that the usefulness of nuclear weapons has disappeared and that, therefore, they should be banned through a multilateral agreement that will ensure an end to their production. The lines are beginning to be drawn and the debate will undoubtedly intensify as we draw closer to the 1995 review and extension Conference of the Treaty on the Non-Proliferation of Nuclear Weapons. What we are witnessing now is a rebirth of the international debate of the 1960s, a debate that was truncated with the signing of the NPT in 1968.

The idea of creating nuclear-weapon-free areas was seen as the first step towards achieving a nuclear-free world.

Like individual families that declared their homes or neighbourhoods nuclear-weapon-free zones, individual States first addressed this question in the 1950s when the *geographic* spread of nuclear weapons began. Some countries accepted the physical presence of nuclear weapons on their territory; others did not and declared themselves nuclear-free. The Antarctic Treaty of 1959 was aimed at ensuring that region's *demilitarization*, including its nuclear-free status. The 1967 Treaty of Tlatelolco sought the military denuclearization of Latin America and the Caribbean. In it the States of the area proclaimed their region a nuclear-weapon-free zone and then negotiated the terms of cooperation that they required from the nuclear-weapon States, including negative security assurances. The underlying philosophy of the Treaty of Tlatelolco and other, subsequent, regional treaties was one of avoiding a nuclear competition in the area while seeking protection from possible attacks from beyond. It thus recognized that the nuclear arms build-up elsewhere in the world would probably continue.

Whereas the Treaty of Tlatelolco is a step towards a nuclear-free world, the aim of the NPT was defined in different terms. It stressed the urgency of freezing at five the number of nuclear-weapon States by securing a commitment from other States that they would not "go nuclear". In return, non-nuclear-weapon States obtained a promise from the nuclear-weapon States that they would begin to reduce their nuclear stockpiles and stop nuclear testing. Almost a quarter of a century later and despite the levels set by START I and START II, those nuclear stockpiles are still larger than they were in 1970 and testing has continued, although here, too, there are now encouraging signs.

Its critics notwithstanding, the NPT has achieved, by and large, its main goal. By adhering to a multilateral legal instrument such as the NPT, a number of countries put an end to internal debates on whether to go nuclear or not. Some

countries, such as Canada, renounced nuclear weapons in the late 1940s, long before the NPT. For others, however, the negotiations that led to the NPT in 1968 were the catalyst that finally resolved their domestic debates. This was the case in Sweden, for example. These and other nations were torn between two sets of conflicting considerations. On the one hand, if nuclear weapons were instrumental in keeping the peace between East and West, why would they not have similar effects in other regions? On the other hand, the more countries with nuclear weapons, the greater the danger. Or, to put it in shorthand, the argument was between "what is good for the goose is good for the gander" and "the fewer the better". And the NPT embodied the triumph of the latter position.

The NPT nuclear caste system

The NPT codified the division of the world's nations into two groups: the five nuclear-weapon States (China, France, USSR, United Kingdom and United States) and the rest. In article IX, paragraph 3, the NPT identified those five States as follows: "For the purposes of this Treaty, a nuclear-weapon State is one which has manufactured and exploded a nuclear weapon or other nuclear explosive device prior to 1 January 1967". The NPT is the only international instrument that defines the membership of the so-called "nuclear club". It is therefore the legal foundation of the present asymmetrical nuclear regime. That asymmetry has been recognized and accepted by the more than 150 non-nuclear-weapon States parties. In other words, the world's nuclear caste society has been sanctioned by practically all countries. And yet the tension continues between the nuclear haves and have-nots.

The NPT is considered to be the corner-stone of the present non-proliferation regime. In recent years it has been joined by China and France, as well as dozens of other

countries, including South Africa. In 1995, twenty-five years after its entry into force, the parties will decide, by a simple majority, whether "the Treaty shall continue in force indefinitely, or shall be extended for an additional fixed period or periods" (article X, paragraph 2). This provision—unique in multilateral arms regulation treaties—was included for a very simple and healthy reason: the non-nuclear-weapon States, led by the Federal Republic of Germany, Italy, Japan and Switzerland, wanted a safety valve in order to review the implementation of the Treaty's provisions before undertaking a permanent commitment not to exercise their own nuclear option. They wanted to review in particular the provisions regarding nuclear disarmament and especially a comprehensive nuclear test ban. These are the provisions that have been at the centre of the five-year reviews held in 1975, 1980, 1985 and 1990. In 1995 the parties will combine the fifth quinquennial review with the extension Conference.

Quite obviously, the reasons that led to the inclusion of the Treaty's review and limited duration are still valid. Unfortunately, considerations of a different nature have led a group of Western countries to attempt to shift the focus of the debate to other, secondary questions. These include the tightening of safeguards and the strengthening of unilaterally proclaimed guidelines for the export of sensitive technologies. Interestingly enough, the proponents of this shift are the very same countries that oppose the participation of non-governmental organizations in the preparatory process of the 1995 NPT Conference and yet insisted on broad NGO participation in the Vienna World Human Rights Conference in 1993 and the United Nations Conference on Environment and Development in 1992. Why so much transparency in those areas and so little in nuclear disarmament?

"Weapons control"

With the end of the cold war, covert activities and secrecy have given way to increasing openness. One result of this trend has been the publication of a string of horror stories of nuclear mismanagement in the former Soviet Union. Another is the call, made initially by Japan and the European Community, for greater transparency in conventional arms transfers which resulted in the establishment in 1992 of the United Nations Register of Conventional Arms. All of this is encouraging to those who believe that the road towards a less armed world begins with an inventory of existing stockpiles and information on arms transfers. But, for now, the emphasis has been on *conventional* weapons, especially in situations where, according to General Assembly resolution 46/36L, "excessive and destabilizing arms build-ups pose a threat to national, regional and international peace and security".

In order to gain widespread acceptance of the United Nations Register of Conventional Arms, the developed countries agreed to its eventual expansion, and the Conference on Disarmament was requested "to address the problems of, and the elaboration of practical means to increase, openness and transparency related to the transfer of high technology with military applications and to weapons of mass destruction, in accordance with existing legal instruments". For the time being, therefore, the Register is limited to conventional weapons while weapons of mass destruction should be dealt with within the existing legal instruments. But these matters must certainly be addressed as well by the entire international community.

Nuclear and chemical disarmament will neither be easy nor cheap. What is one going to do with the tens of thousands of tons of chemical warfare agents when we do not yet know what to do with our civilian toxic waste? What will be done with the 200 tons of plutonium and the 1,000 tons of

highly enriched uranium? And what will the thousands of unemployed scientists do?

The transition from a militarily bipolar and confrontational world to one of greater cooperation and understanding will not be very smooth. This is borne out by the war in the Persian Gulf, the rise of nationalism and ethnic conflicts in Europe and the persistent penury, famine, and political instability in some developing countries. And some of the current trends in disarmament will certainly not make that transition any easier. A handful of countries cannot proclaim themselves the custodians of an "international security" that they themselves have defined according to their own particular interests.

The non-proliferation of weapons of mass destruction and of their ballistic missiles is a subject that has acquired increasing importance in the light of the war in the Persian Gulf. At the same time, the indiscriminate trade in conventional arms—intensified by the voracity of the sellers and/or the mindlessness of the buyers—has become a general concern; hence the 1991 London proposals of the G-7 countries and those of France, a series of meetings of the five permanent members of the Security Council and the 1991 European-Japanese initiative at the United Nations for greater transparency in conventional arms transfers.

The foregoing is part of a trend—all too evident—to multiply the so-called "suppliers cartels", such as the Nuclear Suppliers' Club, the Missile Technology Control Regime and the Australia Group (chemical and biological materials), all aimed at imposing export restrictions on equipment and technology. This trend was also apparent in the negotiations for a chemical weapons Convention, as it was in 1991 at the Third Review Conference of the BW Convention. In sum, the thrust of the initiatives taken thus far with regard to non-proliferation has been to preserve a monopoly over such

weapons and ballistic technology and "to manage better" the conventional arms trade. Another way should be sought, one in which all States participate in the quest for a lasting and equitable solution to this problem.

Non-proliferation in all its aspects

The proliferation of weapons and military technologies has been a constant in history. From the dawn of the atomic age, scientists and political leaders have been concerned with the danger of their further spread. Only a few nations have had the material resources and the scientific knowledge necessary for the production of atomic bombs. Canada's unilateral decision (and that of a number of European countries), together with the constitutional bans imposed by the allies on Germany and Japan, reduced even further the potential nuclear Powers.

With the 1963 Moscow Treaty, the door to the horizontal proliferation of nuclear weapons was partially closed when testing was banned in the atmosphere, in outer space and under water. But underground nuclear testing has continued for three decades. Therein lies the importance that a vast majority of States parties to the 1963 Treaty attach to that Treaty's ongoing Amendment Conference, aimed at converting it into a comprehensive nuclear test ban.

The 1968 NPT was the first international instrument aimed at preventing the horizontal proliferation of a specific type of weapon. To achieve this, the USSR, the United Kingdom, and the United States had to make certain concessions and commit themselves to negotiate agreements on the vertical non-proliferation of those weapons. The key to halt both vertical and horizontal proliferation is a comprehensive nuclear test-ban treaty. As the former Director of the United States Arms Control and Disarmament Agency, Gerard C. Smith, wrote in 1990: "It is difficult to conceive of

any single measure that would do more to stem the spread of the nuclear scourge than a comprehensive ban on nuclear testing".[1] Ambassador Smith is not the first high official of a nuclear-weapon State whose opinion on nuclear testing changed after leaving Government service. Something similar has occurred in the scientific community, especially among those directly involved in testing programmes. Once retired, some of these scientists have ceased to attempt to justify testing and, with a change of heart, have joined the ranks of those seeking a test ban.

During the NPT negotiations in 1967 and 1968, a link was established between the NPT's limited duration and the fulfilment of its provisions regarding nuclear disarmament, that is, a comprehensive test ban and the reduction of the *then* existing nuclear arsenals. The NPT will not run out in 1995; rather, a majority of the parties will have to decide how long it will be extended. The adequate preparation of that extension Conference is crucial to the future of nuclear disarmament efforts.

Whereas in the conventional arms field States are being required to be more transparent, at least in their transfers of such weapons, in the nuclear sphere there continues to be supplier secrecy and silence. Transparency has yet to pervade nuclear matters, as it will pervade chemical disarmament with the entry into force of the 1993 chemical weapons Convention.

In recent years almost all nuclear-weapon States have begun to move towards nuclear disarmament. Nuclear-testing moratoria are in place in three of the five nuclear-weapon States and a fourth is observing a de facto moratorium. START I and START II are, as already noted, significant steps towards reversing four decades of nuclear competition—unbridled at first and later, with the 1972 and 1979 Strategic Arms Limitation Treaties (SALT I and II), better managed and controlled. China

and France have finally joined the NPT and this will allow for a fuller examination of the kind of nuclear non-proliferation regime that will be required for the next century.

The NPT: signs of aging

Over the past few years, however, the current nuclear non-proliferation regime—based largely on the NPT but which, according to most Western countries, also covers the suppliers clubs—has begun to reveal certain cracks. To be sure, no one ever professed the regime to be watertight. But progress in nuclear science and technology, together with some unforeseen developments, have underlined the need for a general review of today's regime. By way of example, here are some elements that might be covered in such a review.

In contrast to the 1960s, the 1990s are witnessing a blurring of the lines between nuclear-weapon States and some non-nuclear-weapon States. Some States that are not declared nuclear-weapon States are importing large quantities of plutonium for their advanced civilian nuclear industry. These and other highly industrialized countries are "potential nuclear-weapon States", since they could produce a nuclear device in a matter of months or weeks. Then there are the so-called "nuclear threshold States", countries that have significant nuclear programmes but are not parties to the NPT (India, Israel and Pakistan). Argentina and Brazil were once on that list, but they have recently taken a number of steps to join the Tlatelolco Treaty. There is now a third category of non-NPT country, the "temporary nuclear-weapon State", a category which has included Belarus and South Africa.

In the USSR, nuclear weapons were stationed in Belarus, Kazakhstan and the Ukraine, as well as Russia. The collapse of the Soviet Union was so sudden that Russia, as its successor State, had no time to remove nuclear weapons from Belarus, Kazakhstan and Ukraine. After a rather confused

process, all three new States committed themselves to implement the START agreements, declared themselves non-nuclear-weapon States and reiterated their intention to join the NPT as such. In Ukraine, however, the situation remains unclear. So far this year there has been a lively domestic debate regarding whether or not to "return" the nuclear weapons to Russia. Some leaders seek economic aid in exchange for doing so quickly. Others believe that Russia poses a nuclear threat and, therefore, wish to keep the weapons as a deterrent. And there are many that enjoy the international "status" that comes with possessing nuclear weapons.

Ukraine has 176 intercontinental missiles charged with 1,240 warheads, as well as some 600 nuclear warheads on about 40 bombers. According to the Russians, those missiles cannot be launched without access to the secret code in Moscow. But the Kiev scientists are close to decoding it. According to the Ukrainians, they have no intention of launching those missiles, they simply want to preserve temporarily their "nuclear status".

Russia, as the successor State to the USSR, is committed by the NPT "not to transfer to any recipient whatsoever nuclear weapons or other nuclear explosive devices or control over such weapons or explosive devices directly, or indirectly" (article I). What will the international community do if Ukraine manages to keep its nuclear arsenal? Could it be said that Russia, as the successor State of the USSR, has violated the NPT by transferring, albeit unwittingly, nuclear weapons to another State? What is the responsibility of a State that involuntarily violates a treaty?

South Africa is a most unusual case. Its adherence to the NPT in July 1991 was acclaimed by the international community. On 24 March 1993, however, President de Klerk announced[2] that, between 1979 and 1989, South Africa had produced six nuclear weapons and had some of the compo-

components and the highly enriched uranium for a seventh device. He stated that these devices had been intended as deterrents, that no nuclear test was ever conducted and that the dismantling of the programme began in November 1989. The dismantling operation of the devices and the transfer of the nuclear material involved to the State's Atomic Energy Corporation for storage were completed in September 1991. In other words, it is possible that, upon acceding to the NPT in July of that year, South Africa was still a nuclear-weapon State.

The foregoing are some of the questions which the NPT parties should examine during the preparatory process, begun in May 1993, of the 1995 review and extension Conference. Another question concerns what occurred in Iraq, a party to the NPT, and why it happened. United Nations and IAEA inspectors have found an impressive amount of material in Iraq—enriched uranium, tools, machines, electronic equipment, computers, precision instruments, etc.—that point to an ambitious nuclear programme. And the list of suppliers reads like a "Who's Who" of the nuclear industry: the companies are from France, Germany, Italy, Japan, Portugal, Spain, Sweden, Switzerland, the United Kingdom and the United States.

How is it possible that for years, especially in the 1980s, this so-called "sensitive" material was exported and in such quantities (for example, 1.7 tons of enriched uranium and 580 tons of natural uranium) without any Government of the exporting States (all of them NPT parties) suspecting that the Iraqis were building something?

What will be the impact of the recent case of the Democratic People's Republic of Korea on the future of the non-proliferation regime established by the NPT? The DPRK has also tested successfully an intermediate-range ballistic missile (about 1,000 km).

In Japan, the developments in the DPRK have given rise to a debate regarding its own future in the nuclear field. Some have begun to utter the unthinkable: the possibility that Japan, in turn, might decide to produce ballistic missiles and nuclear weapons.

The continued presence of nuclear weapons in Ukraine could have a similar impact on some European countries. A nuclear Ukraine could reverse the present trend of "diminished nuclear threat". It could have an impact on France's policy of "minimum deterrence", and public opinion in countries such as Germany and perhaps Poland would ask how long they could continue to live between two nuclear-weapon States. The response might surprise us.

The chemical weapons Convention, opened for signature in January 1993, attempts to remedy these rather confusing situations regarding the non-proliferation of weapons of mass destruction. The Convention requires each party to declare, once the Convention enters into force, whether it possesses chemical weapons, whether there are such weapons on its territory, whether it has transferred or received them since 1 January 1946 and whether there are (or were) CW facilities on its territory. Therein lies the key to the Convention's uniform regime for all parties.

The chemical weapons Convention has yet to enter into force and its implementation is still in the realm of the theoretical. But it will establish a more equitable non-proliferation regime: those parties which have chemical weapons must destroy their stockpiles and all parties are subjected to a single verification system. There is nothing resembling a *chemical* caste society. Nor is there one for biological weapons. This exists only in the nuclear field, and it will have to disappear soon if we are to build a nuclear non-proliferation regime that is genuine, universal and equitable. Nuclear-weapon States (and some others) cannot continue to demand a

right to observe others' nuclear installations, either unilaterally or through IAEA, or both. This is certainly not conducive to the climate of confidence or openness so often required of other countries with regard to other weapons and weapons systems.

Conclusion

The international community in general and the five nuclear-weapon States in particular now have an opportunity to move forward decisively in the field of nuclear disarmament. The preparatory process of the 1995 NPT review and extension Conference offers the best vehicle for undertaking a frank dialogue on the future nuclear non-proliferation regime. Some countries are still hesitant to embark on such an exercise. They fear that it might "unravel the NPT"; they argue that the NPT "should not be held hostage to a CTBT"; they act, not unlike ostriches, as if everything is just fine and all that is needed is to extend the NPT indefinitely and unconditionally after 1995, tighten unilaterally imposed export restrictions of sensitive or dual-purpose technology and, if necessary, organize unilateral action against any would-be proliferator.

The fact is that the NPT is already unravelling and that it has indeed been held hostage for years to the nuclear-weapon States' determination to continue to build and improve their nuclear arsenals and thus try to maintain their nuclear monopoly. Supplier cartels have simply not worked and unilateral coercive action is simply out of place. Moreover, the calls for an indefinite and unconditional extension of the NPT, which are being made well in advance of the 1995 review, are in themselves preconditioning and prejudging the results of that Conference.

The NPT parties would be well advised to follow a different course of action. Previous NPT Review Conferences have left the discussion and resolution of substantive issues to

the very last moment. The preparatory process for those Conferences has been perfunctory, dealing mostly with organizational questions. The 1995 Conference is different from all past NPT Conferences in that it will have to decide on the Treaty's future duration. Moreover, as already noted, the 1990s are different from the 1970s and 1980s. The NPT parties must therefore initiate at once a substantive discussion of the Treaty's provisions with a view to identifying possible shortcomings and reaching agreed solutions to them. This cannot be left to the 1995 Conference itself.

The NPT parties might begin by asking themselves a number of questions: Have the non-nuclear-weapon States abided by the Treaty's provisions? Have the nuclear-weapon States lived up to their side of the bargain struck in 1968 regarding mutual and balanced obligations? Have some of the NPT's provisions ceased to make sense? What is the relationship between the NPT and treaties establishing nuclear-weapon-free zones? Is there a need to strengthen the NPT's verification system and, if so, how should it be improved? What are the implications of an indefinite extension of the Treaty? What would be the purpose of extending it for "an additional fixed period or periods"? What nuclear disarmament measures could the non-nuclear-weapon States reasonably expect the nuclear-weapon States to achieve in the near future? In short, what kind of a nuclear non-proliferation regime do the NPT parties want for the next century and how can the NPT help to ensure it?

Notes

1 *Arms Control Today*, November 1990.

2 The statement was circulated as a United Nations document (A/48/126).

Strengthening the NPT Regime: A CTBT and a Cut-off of Fissionable Material

Roland Timerbaev

For many years there has been broad international agreement that a comprehensive nuclear-test-ban treaty and a cessation (commonly known as a "cut-off") in the production of fissionable material for weapons purposes belong to the category of global arms control measures that are uniquely capable of consolidating the international nuclear non-proliferation regime. The history of non-proliferation has been intimately intertwined with the history of nuclear test-ban efforts and attempts to put an end to the manufacture of fissionable material for weapons. Both have been considered as fundamental instruments for arresting the nuclear arms race and mitigating the discriminatory character of NPT. A CTBT and a cut-off agreement have been the subject of countless resolutions of the United Nations General Assembly and of various international disarmament bodies, and both were top agenda items at all four NPT Review Conferences—in 1975, 1980, 1985 and 1990. Owing to the controversy between non-nuclear-weapon States and nuclear-weapon States over the test-ban issue, two conferences—those in 1980 and 1990—failed to agree on a substantive final document.

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At a time when NPT parties are contemplating the prospects for the nuclear non-proliferation regime in 1995 and thereafter—well into the twenty-first century—the future and durability of this regime will, to a large degree, depend on what decisions on a CTBT and a cut-off agreement are made in the coming months, before the NPT extension conference in 1995.

A comprehensive test-ban treaty

Ever since a CTBT became a high-priority issue on the international agenda some forty years ago (the first statesman to raise it was Jawaharlal Nehru, who in April 1954, after a United States nuclear explosion on Bikini, urged the world community to agree on a test ban), there has been no lack of excuses, diversions or manoeuvres aimed at delaying, if not blocking, a comprehensive agreement.

Generations of United States and Soviet negotiators spent years discussing detection and identification thresholds below which there would allegedly be no way to verify a test ban; the "big hole" theory, according to which it would be possible to conduct "decoupling" in an underground cavity and thus greatly diminish the magnitude of a seismic signal; the quota of on-site inspections annually permitted to each side—20, as proposed by the Americans, or 3, as accepted by the Russians; the number of seismic stations to be emplaced on the territories of participating States, and so on.

As a result, it has been possible so far to reach only limited agreements—the partial test-ban Treaty of 1963, prohibiting nuclear testing in the atmosphere, in outer space and under water; the threshold test-ban Treaty of 1974, prohibiting tests above 150 kilotons, and the peaceful nuclear explosions Treaty of 1976. The quite promising (at least as they were seen at the time) tripartite United States-United Kingdom-Soviet talks of 1977-1980 initiated by the Carter

Administration were cut short by the Reagan Administration. Since then, efforts to negotiate a CTBT have been stalled.

The recent United States legislation initiated by the Democratic majority of the Congress and signed by President Bush on 2 October 1992 sets a moratorium on United States nuclear tests until 1 July 1993, thus making a four-Power suspension of tests (Russia and France announced their moratoria earlier, and the United Kingdom cannot continue testing at the Nevada site while the United States moratorium is in effect). The legislation permits up to 15 nuclear tests to improve the safety and reliability of nuclear weapons from the end of the moratorium until October 1996, and prohibits United States testing after that, unless another country conducts tests. It also calls on the President to submit to the Congress a plan for achieving a multilateral comprehensive test ban "on or before September 30, 1996". Presidents Clinton and Yeltsin, at their April summit in Vancouver, agreed that "negotiations on a multilateral nuclear test ban should commence at an early date".

This positive trend that has opened up encouraging prospects for a CTBT in, hopefully, the not-too-distant future is, to a large extent, the consequence of a growing realization of the diminished value of nuclear weapons and of nuclear deterrence in the post–cold war environment. NATO's present strategy reflects "a reduced reliance on nuclear weapons."[1] This seems to be even more true for Russia. The two principal nuclear Powers have now entered a period of deep reductions in and dismantlement of their nuclear arsenals. It appears that this process is constrained only by such practical limitations as availability of disassembly capabilities, storage facilities and financial resources (in the case of Russia).

Discussion has already started—if not yet among the Governments concerned, at least in the arms control community and academic circles—as to what the next steps in nuclear

arms control should be. What is a minimum nuclear deterrent? Should the 3,000-3,500 warhead limit agreed to under START II be lowered to 1,500, 300 or even 100 warheads? How far and how soon can we move towards the abolition of nuclear weapons? Should national nuclear armaments be replaced by some sort of international control of atomic energy? No less an authority than Dr. Edward Teller, father of the H-bomb, has proposed the "revival of the Baruch Plan".[2] Stanford University has recently conducted a workshop on the theme of "International control of nuclear weapons: myth or reality?"

However, before a CTBT can become a reality, its negotiators will have to address two challenging issues: how to set up an effective international system of verification to monitor it; and whether or not there is a need for any arrangements to ensure the safety of the remaining nuclear explosives.

With regard to verification, if this problem is to be approached in an unbiased way and with due account taken of the new and encouraging climate of openness and transparency that is now replacing decades of all-embracing secrecy, then this issue should not become a stumbling block, as it did in the past. We are witnessing today wide acceptance of intrusive verification and transparency in armaments. The United States and Russia have agreed to far-reaching inspection rights under the INF and START Treaties. Under the chemical weapons Convention, its signatories have accepted "challenge inspections" "any time and anywhere". IAEA has recently activated its long-dormant right to conduct "special inspections" of undeclared locations which may be triggered on the basis of "additional" (or intelligence) information provided by member Governments.

So we now have a verification-friendly environment for the first time. Also, there is today more mutual understanding and trust among major participants of a future agreement. However, to be truly effective, the agreement should be based

on the principle of "trust and verify", as an old Russian saying goes.

CTBT verification should, as far as it is practicable, be international and cost-efficient. In addition to national technical means of verification, it should include all required and available detection techniques: global seismic monitoring, radioisotope sampling, outer space monitoring, etc., as well as on-site inspections.

Administration and management of such a verification system would require an appropriate international mechanism. It was suggested[3] that this task should be given to IAEA. Though placing such a responsibility upon the Agency would require substantial changes in its administrative arrangements and, especially, in its financing, this new role would be consistent with its statutory objective of seeking to prevent the use of atomic energy for military purposes. Moreover, it would be in compliance with the provision of the Statute that authorizes the Agency to "conduct its activities in accordance with the purposes and principles of the United Nations to promote peace and international co-operation, and in conformity with policies of the United Nations furthering the establishment of safeguarded worldwide disarmament and in conformity with any international agreements entered into pursuant to such policies".[4]

As the sole agency of the United Nations system in the field of nuclear energy, IAEA would be well suited to provide the needed services. Assigning CTBT verification services to the Agency would significantly reinforce its role of monitoring the international nuclear non-proliferation regime.

As to the safety of nuclear weapons, the existing United States legislation, as mentioned above, requires only a strictly limited number of nuclear tests for safety, after which they will be ended, and even this limited testing is contested by many experts. Reports that President Clinton was consider-

ing ordering a resumption of testing after 1 July led to strong opposition on the grounds that new tests were not needed and would be counter-productive and damaging to the nuclear non-proliferation regime. If the United States resumed testing, the United Kingdom would automatically do the same, and Russia and France would, in all probability, follow. (See page 194 for the announcement of President Clinton's decision to extend the moratorium.)

The resumption of nuclear tests after many months of the moratoria on testing by the United States, Russia and France and at a time when NPT parties are engaged in a process of preparation for the 1995 NPT Conference would indeed be a disservice to all efforts to improve conditions for a long-term extension of the Treaty. This would also greatly reduce the leverage on near-nuclear nations not to pursue their nuclear ambitions.

Not an insignificant question is whether some kind of experiments should be permitted for the purposes of assuring weapons safety. Scientists responsible for the safety of weapons will undoubtedly contend that some method of testing would be necessary. In addition, industrialized nations working to produce fusion energy for civilian needs may want to continue experiments that could be described as a controlled series of tiny fusion explosions.

Should a CTBT include a definition of "nuclear explosion" that would allow for some kind of experiments for the above-mentioned or similar purposes? The NPT experience, fortunately, offers useful guidance for avoiding a "definition" pitfall that has haunted CTBT negotiations since they began in 1958. Experience has convincingly demonstrated that a precise definition of what constitutes a nuclear explosion can be avoided without compromising the integrity of the regime. Using similar guidelines as in the NPT, a CTBT should simply prohibit the testing of "nuclear explosive

devices", without trying to define them in the treaty, relying instead on the negotiating history of the NPT and of the new CTBT to define the coverage of the treaty.

During the negotiation of the NPT, a broad definition of nuclear weapons was used uncontestedly, under which "all nuclear weapons have one characteristic in common ... that upon activation of a prearranged trigger mechanism they can release large quantities of energy in a very short period of time from sources of relatively small volume and light weight".[5]

The NPT bans nuclear explosive testing by non-nuclear-weapon States by prohibiting them from manufacturing or otherwise acquiring nuclear weapons or other nuclear explosive devices. If such a State set off a nuclear explosion, that would be evidence that it had acquired or manufactured such a device. The NPT thus prohibits non-nuclear-weapon States parties from conducting such tests, even though the text of the Treaty does not contain a definition of "nuclear explosive devices".

On the other hand, experiments such as those conducted in Los Alamos during the 1958-1961 moratorium, though useful for testing the safety of nuclear weapons, are "zero yield" or equivalent to less than a pound of high explosive and thus do not fall under the broad definition of a nuclear explosive device accepted by NPT parties. Omission of a definition in a CTBT would not, in practice, weaken the treaty. Its text, objectives and negotiating history would provide adequate guidance for its parties to identify a nuclear explosion if one ever occurred.[6]

To be meaningful, a CTBT should have to have universal membership and include among its parties all nuclear-weapon States and States like India, Israel and Pakistan. Thus, to be widely accepted, it should be negotiated by a multilateral forum—the Geneva Conference on Disarmament. The United States and Russia, announcing during the

Vancouver Summit their agreement to negotiate a multilateral nuclear test ban, also expressed their intention to "consult with each other". It would be important for the success of the CTBT effort to broaden these consultations later on so as to include other nuclear-weapon States as well as countries with advanced nuclear capabilities.

A cut-off in production

A worldwide cut-off in the production of fissionable material for weapons purposes is also an extremely important nuclear arms control measure capable of strengthening the non-proliferation regime. Its achievement would signal the determination on the part of the nuclear-weapon States and other nations with advanced nuclear capabilities to exclude any resumption of a nuclear arms race and to start, once and for all, at the global level, to de-emphasize nuclear weapons.

The Bush Administration announced in its July 1992 initiative that the United States would not produce plutonium and highly enriched uranium, two key ingredients of nuclear weapons, for nuclear explosive purposes. This announcement is largely symbolic, since the United States has not produced uranium for weapons since 1964, and it ceased plutonium production in 1988. The United States cut-off was a unilateral step, rather than an element in a binding treaty, and, in principle, can be reversed, though this is highly unlikely.

In January 1992, President Yeltsin declared:

> "Russia intends to continue implementing the programme for halting the production of weapons-grade plutonium. Industrial reactors for the production of weapons-grade plutonium will be shut down by the year 2000, and some of them, under an accelerated timetable, as early as 1993. We confirm our proposal to the United States of America to reach

agreement on a monitored cessation of the production of fissile materials for weapons."[7]

Three production reactors are still operational (two in Tomsk-7 and one in Krasnoyarsk-26), and in addition to producing plutonium, they supply electricity and heat for the local population.

Russian production of highly enriched uranium for weapons purposes had been halted earlier. A United States–Russian agreement of February 1993 calls for the United States to buy at least 500 metric tons of highly enriched uranium from the Russian Government over 20 years. The uranium is to be blended down into commercial reactor fuel for civilian power plants.

Thus, there seems to exist a favourable opportunity for a joint United States–Russian initiative leading to a worldwide verifiable cut-off agreement. The United States–Russian agreement, which is to be the corner-stone of a global effort, should not of course be deferred until the year 2000. Ways must be found to reach such an agreement without too much delay, with some accommodation for the Russians with regard to the operation of the three remaining reactors. Without awaiting the results of their discussions, both Powers should approach London, Paris and Beijing, as well as New Dehli, Islamabad and Tel Aviv. The Bush proposal of May 1991 for Middle East arms control has already placed this topic on the agenda for that region.

The urgency of dealing with the problem of plutonium and highly enriched uranium is highlighted by the projected release of approximately 200 tons of plutonium from dismantled United States and Russian warheads. To this figure one must add 80 tons of separated civilian plutonium. If present plans are implemented, the civilian reprocessing plants of France, the United Kingdom and Japan will more than double the stocks of separated plutonium by the end of

the decade. This would yield enough fissionable material for several thousand nuclear weapons.[8]

As was suggested by a study of the Stockholm International Peace Research Institute,[9] the first step in the direction of a cut-off would be an international register of plutonium and HEU stocks, with an international body collecting and publishing annual data on plutonium and HEU. Governments would be asked to submit information on their inventories, both military and civilian, at the end of each year. This would go for nuclear- as well as non-nuclear-weapon States.

The next step would be verification of all existing stocks by international machinery. The verification regime for a cut-off should be based on full-scope IAEA safeguards and include the right to conduct "special" or challenge inspections (perhaps of the type provided for in the new Convention on chemical weapons).

A cut-off agreement should provide for safeguarded disposal of all plutonium and HEU through an international storage regime, permitting the release of fissionable material for eventual civilian use under appropriate international procedures that would provide additional assurances concerning non-diversion and exclusively peaceful use. The use of plutonium is plagued by security, safety and environmental problems. An international plutonium storage regime (IPS) appears today to be the only viable option. The original concept of IPS, unsuccessfully addressed by an IAEA group of experts some ten years ago, was intended for plutonium retrieved from civilian reactors of non-nuclear-weapon States. Naturally enough, it should apply now in the first instance to plutonium to be discharged from nuclear weapons of nuclear-weapon States, as well as to plutonium accumulated by nations with advanced nuclear technology.

IAEA is uniquely qualified to be the monitoring agency for a cut-off agreement. The safeguarding of enrichment and reprocessing plants is a task which is already one of the Agency's duties. As for an international plutonium storage regime, it is authorized by IAEA's Statute.[10]

Both a CTBT and a cut-off of production of fissionable material for weapons purposes should be given top priority on the international agenda. Agreements on these two burning issues would greatly contribute to the universality of the nuclear non-proliferation regime and might lay the groundwork for a more ambitious scheme of international control of atomic energy in the future.

Notes

1 "Declaration on a Transformed North Atlantic Alliance" issued by the Heads of State and Government participating in the meeting of the North Atlantic Council in London, 5-6 July 1990, para. 20. The text of the Declaration was circulated as a document of the Conference on Disarmament (CD/1013) and was reproduced in *Disarmament: A Periodic Review by the United Nations*, vol. XIII, No. 4, 1990.

2 Unpublished memorandum by Dr. Edward Teller, 29 January 1992.

3 By the late Lord Zuckerman, for many years Chief Scientific Adviser to the Ministry of Defence of the United Kingdom, in *Nature*, 4 February 1993, p. 396.

4 The IAEA Statute, Article III.B.1.

5 Statement by United States representative William Foster, 8 June 1967 (ENDC/PV.303), pp. 4-11.

6 See a detailed discussion of this subject in: George Bunn and Roland Timerbaev, "Avoiding the 'Definition' Pitfall in a Comprehensive Test Ban", *Arms Control Today*, May 1993, pp. 15-18.

7 The statement of President Yeltsin was circulated as a United Nations document (A/47/77-S/23486 and Corr.1, annex). The text was also reproduced in *Disarmament: A Periodic Review by the United Nations*, vol. XV, No. 2, 1992.

8 Lawrence Scheinman, "Nuclear nonproliferation implications of international political change and decisions related to nuclear disarmament", a paper presented at the international workshop at Tokai University, Tokyo, 15-16 March 1993.

9 David Albright, Frans Berkhout and William Walker, *World Inventory of Plutonium and Highly Enriched Uranium, 1992*, a SIPRI publication (Oxford University Press, 1993), p. 213.

10 Article XII.A.5.

The Non-Proliferation Treaty, Tlatelolco and the Regional Contribution

Julio C. Carasales

As we draw closer to 1995, the year in which, pursuant to article X of the Treaty on the Non-Proliferation of Nuclear Weapons, a highly important conference will be held to decide whether the Treaty shall continue in force indefinitely or be extended for an additional fixed period or periods, speculation about the future of the nuclear non-proliferation regime continues to increase.

Meanwhile, recent events have helped to introduce elements of uncertainty into the question: the experience of Iraq, a party to the NPT, the dissolution of the Soviet Union and the appearance of new nuclear-weapon States, and the withdrawal announcement and its subsequent suspension by the Democratic People's Republic of Korea *vis-à-vis* the NPT are among the factors which give rise to an atmosphere of concern.

Because the NPT has become the corner-stone on which the world's non-proliferation system rests, it is logical that the future of that international instrument should be paid the greatest attention and that great interest should continue to

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be expressed in increasing the number of parties to it until the entire international community is included.

Nevertheless, the significance of the non-proliferation Treaty should not be exaggerated. Without diminishing its real importance, the fact remains that the NPT is an international treaty which, while it embodies fundamental commitments, can also justifiably be criticized because of lack of compliance with some of the commitments it incorporates and because of the loopholes that have come to light in recent years, which could and should be closed.

This will not happen because, as we know, the NPT is practically unalterable. In 1996 we will have exactly the same NPT as in 1995 and its influence on world nuclear policy will most probably be the same as it is now. I do not have the slightest doubt that the 1995 Conference will extend the life of the Treaty and will do so for a long period. Although its text will remain the same, the NPT will emerge from the 1995 Conference strengthened to the extent that its future will no longer be in doubt and its continued validity will be assured for a long time, perhaps indefinitely. The continued existence of the NPT should certainly not be ground for concern.

The NPT has acquired symbolic value, but it is not synonymous with non-proliferation. Adherence to the NPT has become the touchstone by which the sincerity and firmness of every country's non-proliferation policy is judged and great efforts are being made to bring every country outside the system into it by accession to the Treaty.

I believe that this is not the most productive approach. To get a country to accede to the NPT is a worthy objective, but it is not the final or sole solution. First, it has been shown that accession to the NPT is not a guarantee of non-proliferation unless it is accompanied by other steps which go beyond the obligations contained in the Treaty and secondly, because there are other, even more effective, means whereby countries

can demonstrate clearly and firmly their commitment to non-proliferation.

I am referring to regional agreements and internationally guaranteed bilateral arrangements. The purpose of this article is really to highlight the fact that the NPT is not the only available means, and that in spite of its merits, there are other means which should be known, respected, and given their proper weight.

In support of the foregoing statement, I shall cite as examples the Treaty for the Prohibition of Nuclear Weapons in Latin America and the Caribbean (without neglecting to mention the existence of the denuclearized zone in the South Pacific) and the bilateral arrangements made between the Argentine Republic and Brazil.

The features of the Treaty of Tlatelolco have already been described many times. I shall not repeat them. It is, however, worth pointing out that Tlatelolco goes further than the NPT in some respects, the main one being that it prohibits the stationing of nuclear weapons in the territory of Latin American countries and in territories under the jurisdiction of extraregional countries, including those possessing nuclear weapons. When it takes full effect, the prohibition will cover the immense land and ocean area described in article 4 of the Treaty.

As is known, Tlatelolco permits, under certain conditions, something that the NPT prohibits: the carrying out of so-called peaceful nuclear explosions. However, in practice the danger is non-existent. No such explosion has been carried out and there is no one capable of carrying one out; moreover, the majority interpretation is that the possibility of carrying out such explosions would arise only if the technology necessary for them were different from that utilized for the manufacture of nuclear weapons. Furthermore, all the States parties to Tlatelolco must sign full-scope safeguards agree-

ments with IAEA—in practice the same as those signed by the countries belonging to the NPT—prohibiting the explosive use of nuclear energy. Later on I shall refer to the policy currently followed in this respect by the Governments of two countries which have not yet acceded fully to the Treaty of Tlatelolco, that is, Argentina and Brazil.

Closely related to the scope and effectiveness of the prohibitions contained in Tlatelolco is the extent of the area to which it applies. It is a fact that in Latin America the territory of the countries which are not parties to Tlatelolco is as large or larger than that of the States which have ratified it. Worse still, the former group of countries includes the two most advanced with respect to atomic energy, that is, Argentina and Brazil. Accordingly, what those two countries do is essential to assessing the real scope of Tlatelolco and its effectiveness as a way of preventing nuclear proliferation in the region.

As is known, Brazil ratified the Treaty of Tlatelolco, but without waiving the requirements which, according to article 28, must be met in order for the Treaty to enter fully into force throughout the zone, one of these requirements being that the Treaty must be ratified by all States of the region entitled to do so. Chile has followed Brazil's example, and Argentina has signed the Treaty but never ratified it. Cuba has neither signed nor ratified it. The other State which had remained partly outside the Treaty, France, recently acceded to it fully by ratifying Additional Protocol I.

It is clear, therefore, that the policy followed by Argentina and Brazil, in the first instance, with respect to Tlatelolco is fundamental to achieving the definitive strengthening of the Treaty. We can expect Chile to follow the example of its two neighbours and, once that happens, Cuba has given positive signals that, when it comes to the point, it will not stand in the way of the Treaty's full entry into force.

There is every indication that Argentina and Brazil will shortly become full members of Tlatelolco. It is important to emphasize, however, that this is happening not as an isolated event but as a direct consequence of the process of bilateral *rapprochement* with respect to nuclear matters which the two countries initiated in 1980 and intensified conspicuously as from 1985. One thing follows from the other.

I shall now make some comments on the bilateral arrangements concluded between the two countries. With regard to Tlatelolco, the Joint Declaration signed by the two Presidents at Foz de Iguazú on 28 November 1990 outlined the series of steps the two States would take to tighten and intensify their bilateral cooperation—steps, it should be emphasized, that the two Governments are taking with a speed and effectiveness rare in such matters.

The last of the measures to be taken bilaterally consists of the incorporation of the two countries into the Tlatelolco regime—but a regime that has been updated and improved. No sooner was the Joint Declaration signed than the Government of Chile indicated its desire to act jointly with Argentina and Brazil at that stage in order to accede fully to the Treaty.

Accordingly, the three South American Governments, in due course, agreed on some technical and procedural amendments which, without changing the substance of the Treaty, in their judgement improved the procedures proposed for the Treaty's control system. The amendments were consulted on and harmonized with Mexico, the country which initiated and promoted Tlatelolco and where the secretariat has its headquarters, and were then submitted to a special review conference of the Treaty, held in June 1992.[1] The amendments were accepted unanimously by all the States parties, and the representatives of Argentina and Brazil announced that on the day that the Parliaments of their two

countries approved the new documents, they would waive the requirements contained in article 28. As Chile will certainly do the same, it is to be hoped that Cuba will shortly be the only country that is not a party to Tlatelolco. Until Cuba's attitude changes—which, as has already been said, is quite likely—Tlatelolco's zone of application, although not that envisaged in article 4 at the time when the Treaty enters fully into force, will none the less be very extensive: the sum of all the territories of all the countries parties to the Treaty and of all the entities included in Additional Protocol I, including the countries of the region most advanced in nuclear development.

I should not neglect to mention that in regard to peaceful nuclear explosions, not only have Argentina and Brazil signed a blanket safeguards agreement with IAEA, but they have also included, in article 1, paragraph 3 of the Agreement for the Exclusively Peaceful Use of Nuclear Energy, signed in Guadalajara, Mexico, on 18 June 1991 and ratified by the Parliaments of both States, a clause which reads as follows:

> "3 Bearing in mind that at present no technical distinction can be made between nuclear explosive devices for peaceful purposes and those for military purposes, the Parties also undertake to prohibit and prevent in their respective territories, and to abstain from carrying out, promoting or authorizing, directly or indirectly, or from participating in any way in, the testing, use, manufacture, production or acquisition by any means of any nuclear explosive device while the above-mentioned technical limitation exists."[2]

This means that, whatever the interpretation of article 18 of the Treaty of Tlatelolco, the two Latin American countries capable of carrying out a nuclear explosion are legally precluded from doing so.

Moreover, with regard to the Treaty, the parliamentary approval process is at present somewhat more advanced in Argentina than in Brazil, though in the latter case it should be pointed out that only the amendments stand to be approved, not the main text of the Treaty, which was ratified some time ago unconditionally. Argentina, however, must ratify the new Treaty in its entirety, including the modifications introduced at the Conference of June 1992. The Argentine Senate unanimously approved the Treaty, as did, also unanimously, the Commission on Foreign Affairs of the House of Deputies. Such is the situation at the time of writing this article. In any event, all signs suggest that full accession of the Argentine Republic to the Tlatelolco system is a matter of time, and indeed a very short space of time.

It is clear from all that we have said that the Treaty of Tlatelolco is very near to achieving the objectives set by the drafters of this international instrument when it was opened for signature on 14 February 1967.

Full adherence to Tlatelolco would ensure the total absence of nuclear weapons in Latin America and the Caribbean. When they joined that system, the countries of the region made a number of strong and far-reaching commitments on non-proliferation, which can be monitored, and which in some respects go further than does the NPT. In any event, it can be forcefully argued that the obligations of the States parties to Tlatelolco are not less than those of the States parties to the non-proliferation Treaty. Many have complied with both treaties, in the sense that honouring the stronger instrument necessarily means honouring the weaker one—the weaker one being the NPT. And yet, in actual fact, those countries that are parties to Tlatelolco but not to the NPT are sometimes seen as remiss, and the commitments they have made within the context of the regional agreement are viewed by some as having less value than the commitments expected of parties to the NPT.

As I mentioned earlier, the great step forward that the Tlatelolco system is now in the process of taking—with Argentina, Brazil and Chile on the verge of joining—is largely a consequence of the bilateral cooperation process begun in the nuclear arena by Argentina and Brazil a decade ago. It is perhaps worthwhile to point out that an exclusively bilateral approach to non-proliferation can also bring about results that are intrinsically valuable, and not merely the first step towards joining a multilateral system.

Dating back to the era when the two countries were colonies of Spain and Portugal and ever since they achieved independence, more than 150 years ago, Argentina and Brazil have maintained a relationship not so much of conflict, as of rivalry—competing, in a mostly friendly atmosphere, to be the "leader" of South America.

In the mid-twentieth century, political sectors in both countries began to perceive with increasing clarity that to continue with a regime of mutual antagonism and distrust was anachronistic and unreasonable, on the one hand, because there was no real reason for it and, on the other, because the world situation was changing, making it less and less probable that military conflict would erupt in the region—which may, for that matter, be the most peaceful in the world.

However, it was not easy to overcome centuries of suspicion and precautions; consequently, although the leaders of the two countries made several unsuccessful—perhaps because they were premature—attempts to establish bilateral relations on a different plane, it was not until the end of the 1970s that the climate seemed ripe for the big step.

Although a first *rapprochement*, in 1980, between the military Governments that were in power at the time in both nations failed to produce the hoped-for results, starting in the mid-1980s, when civilian authorities were in charge of the

affairs of the two countries, the process gained strength and vigorous momentum.

It was then that substantive cooperation began in the nuclear area, but it should be firmly borne in mind that nuclear *rapprochement* was not an isolated phenomenon, independent of the overall interrelationship of the two States. It was simply one aspect, certainly a very important aspect, of a process of fundamental reconstitution of bilateral relations. The two Presidents signed the first Joint Declaration on nuclear policy at Foz de Iguazú on 30 November 1985; six months later, in July 1986, the two countries concluded an Integration Instrument with a series of related protocols, whose number grew over time, concerning cooperation in a number of areas, the nuclear area being just one. In March 1991, Argentina and Brazil, together with their two neighbours Paraguay and Uruguay, signed a treaty which provides—and active steps are being taken to achieve this goal—for the establishment, by 31 December 1994, of a common market among the four countries.

It is, none the less, interesting to note that an issue as highly sensitive as the nuclear one should have provided the right conditions for becoming one of the areas in which integration between the two countries has progressed very vigorously. The nature of the subject, which is of such transcendental importance for the safety of the two nations, would not appear to make it very suitable for spearheading a process of bilateral *rapprochement*, particularly if we consider that it was preceded by decades of competition specifically in the nuclear area. The fact that this was possible shows that the trust which had been created, and which they sought to foster, was genuine and well-founded. It is worth pointing out, here, that mutual trust was the foundation on which the remarkable edifice that now stands was built, rather than the final outcome of an entire process of reciprocal controls and verification structures. These controls and structures were possible

because there was an adequate level of confidence from the very beginning to permit the elaboration of measures which may be considered sufficiently intrusive and rigorous.

The process of nuclear *rapprochement* between the two countries proceeded in stages, starting in November 1985. There were successive visits by the two Heads of State from one country to the other, including tours of the most sensitive nuclear facilities; these were always followed by joint declarations on nuclear policy or, as time went by, on *joint* nuclear policy.

At the same time, a series of agreements were signed on specific aspects, such as the one on mutual assistance in case of nuclear accidents. What is more important, under the direction of the two Ministries of Foreign Affairs, a Joint Committee on Nuclear Policy was created which, in fact, became the driving element and the planner of initiatives that, because it received the necessary political support at the highest level, led gradually to the adoption of the successive steps which have marked this process.

We have already emphasized the tremendous importance of the second Joint Declaration, signed at Foz de Iguazú on 28 November 1990. Pursuant to the guidelines stemming from that document, the two States established, in the Guadalajara Agreement of July 1991, a Common System of Accounting and Control of Nuclear Materials and a Brazilian-Argentine Agency (ABACC) responsible for verifying that the nuclear material in the possession of the two parties "is not diverted to nuclear weapons or other nuclear explosive devices".

This was followed, six months later, on 13 December 1991, by the signing, in the presence of the Heads of State of Argentina and Brazil and with the participation also of ABACC and IAEA, of a four-party comprehensive safeguards agreement in Vienna,[3] which Argentina has already ratified.

Immediately thereafter efforts were begun to obtain certain amendments to the Treaty of Tlatelolco to which we have already referred. The effort was successful and the two Governments submitted the documents to their respective Parliaments for approval; this is currently being obtained.

All the foregoing demonstrates clearly that this process of bilateral arrangements has continued and even quickened over time. The change of Head of State which occurred in Argentina and Brazil did not affect the process, indicating that it was not driven by the individual will of either leader but was a decision in which all governmental sectors and concerned sectors of the community had participated.

Brazil's new President has been in office just a short while. Mr. Itamar Franco paid an official visit to Argentina in May of this year. The Joint Declaration signed by the Presidents on 26 May contains two paragraphs which are worth emphasizing, out of many others which demonstrate the vigour of the integration process on which the two countries have embarked. The first paragraph states specifically that the two Presidents have resolved to expand and deepen, in the light of the rapidly changing international scenario, the strategy of acting in concert in the political field and to strengthen the process of economic integration of their two countries.

With regard to the subject which specifically concerns us, paragraph 5 of the Declaration expresses the common desire to reaffirm, in accordance with their aspirations for peace, the bilateral and international commitments undertaken by the two countries regarding the exclusively peaceful use of nuclear energy, their decision to renounce the possession of weapons of mass destruction, including chemical and biological weapons, and the non-proliferation of nuclear weapons. They also reiterated their interest in the early entry into force of the safeguards Agreement mentioned above

and the rapid entry into force, for Argentina and Brazil, of the Treaty of Tlatelolco, as amended.

Thus the decision to intensify integration in all fields, including the nuclear field, has been confirmed at the highest level of the two Governments, and at the same time the non-proliferation policy, established in the previously mentioned agreements and arrangements which have full legal validity, has been strongly endorsed. Not only do Argentina and Brazil follow a joint nuclear policy, but in the relevant international forums, their representatives normally act on behalf of both countries. At some meetings of a technical nature, there have even been cases where one person has represented both States.

This situation is not confined solely to the nuclear sphere. During the presidential visit at the end of May, the two countries signed an agreement providing for joint consulates in certain cities where diplomatic officers from both countries may work and in the offices of which both flags will fly. Consideration is even being given to the possibility, if the consular experience is successful, of having joint embassies.

This example highlights the degree of integration that is being attained by the two countries, reaffirming what was said earlier. The close coordination in the nuclear field is not an isolated phenomenon but a facet of a global relationship between the two countries based on trust and cooperation.

The experience of Argentina and Brazil in the nuclear field could naturally serve as a model, with appropriate adjustments, for other situations that are in some way comparable, but it is essential to bear in mind that bilateral arrangements in the nuclear field will be possible only if they form part of a more far-reaching process in which the overall relations between two States undergo a fundamental change and proceed from conflict or rivalry to cooperation and the solution of pending problems. It is reasonable to believe, in

the light of the Argentine-Brazilian experience, that in the absence of such an overall approach, the prospects for success of efforts limited to the nuclear field will be slim.

Lastly, I should like to return to a subject to which I referred earlier—which could be termed an obsession on the part of some—that of regarding the non-proliferation Treaty as the *only* valid indication of a State's commitment not to produce these weapons of mass destruction.

I have briefly outlined the obligations in this field which are included in the Treaty of Tlatelolco and in the agreements signed by Argentina and Brazil.

To use the example of Argentina, not only has it undertaken or is in the process of undertaking solemn commitments of indisputable legal value, but it was also admitted, in March 1993, as a full member of the Missile Technology Control Regime and, in December 1992, of the Australia Group for the control of chemical substances. It participates as an observer in the Nuclear Suppliers Group or London Club, and is in the process of being accepted as a full member. I could mention other actions which are evidence of the same desire for peace and non-proliferation.

However, it seems that all these facts, along with those already referred to in this article, are insufficient to justify accepting Argentina's credentials as a non-proliferating country. The only valid way for a country to prove its credibility seems to be for it to accede to the NPT. Nothing else matters, at least for a substantial number of countries. In my view, this position is unreasonable and, in fact, amounts to an underestimation of the significant measures a country has taken, overcoming many difficulties and attitudes from the past, with utmost seriousness and in good faith. At the same time it may even be counter-productive to reduce all efforts in the field of non-proliferation exclusively to the question of accession or non-accession to the NPT, to the extent that it

counteracts and precludes other alternatives which may lead to the same result. Furthermore, it is essentially contradictory to promote or encourage bilateral or regional approaches and then deny that they have any value.

In saying this I do not wish to rule out the possibility that Argentina may, in the end, join the NPT regime, despite the justified criticisms which it has always voiced concerning it. However, considering that Argentina has actually assumed greater obligations than those emanating from the NPT, the appropriateness of persisting in the view that accession to the non-proliferation Treaty is the *only* valid indication of a State's commitment not to produce nuclear weapons is, to say the least, questionable.

Notes

1 Circulated as a document of the General Assembly (A/47/467).

2 Circulated as a document of the Conference on Disarmament (CD/1117).

3 Circulated as a document of the Conference on Disarmament (CD/1118).

Nuclear Non-Proliferation and Confidence-building in the Southern Cone

Marcos Castrioto de Azambuja

The negotiations and agreements between Brazil and Argentina in the nuclear field during the latter part of the 1980s and into the first years of this decade sought to respond to simultaneous and equally important national impulses and perceptions.

Both countries wanted to increase confidence between themselves, to enhance security in South America (particularly in its southern cone), to advance the cause of nuclear non-proliferation while retaining their long-standing reservations regarding the built-in inequalities of the non-proliferation Treaty, to strengthen the Tlatelolco system and, last but not least, to pursue peaceful nuclear research and development in a manner that would not be perceived as threatening or ambiguous by each other, by their immediate neighbours and, ultimately, by the international community as a whole.

The exercise involved initially the two original players, but was later extended to bring in IAEA and the full membership of the Tlatelolco Treaty.

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At no time did the two countries consider that what they were trying to accomplish was either exemplary or a model which could automatically be extended to other regions of the world. Both countries were quite aware of the uniqueness of their shared circumstances, and their choice of approaches was suggested by their diversified and long-standing relations as immediate neighbours whereby, despite mutual misgivings and suspicions, they had maintained peace between themselves for more than a century and a half.

This is not to say that Brazil and Argentina were unmindful of the fact that the ultimate success of their endeavours would have a positive impact on international relations locally and at large. At all stages the main negotiators and other significant actors of both countries understood that the outcome of the enterprise would be highly beneficial to their respective national constituencies and to international peace and security as a whole.

A little background information seems necessary to place events in some perspective.

Brazil and Argentina are and have been two significant regional Powers, which together represent more than half of Latin American's land mass. As regards other significant indicators (population, GNP, etc.), the same proportions roughly apply. Each country has normally stressed over the years those factors that gave it, *vis-à-vis* the other, stronger credentials and a comparative statistical or a psychological advantage.

Brazilians, by and large, have leaned towards quantitative factors (great land mass, large population, abundant resources, large-scale economy, etc.), while Argentina has mostly selected qualitative aspects (higher per capita income and educational standards, milder climate, fertility of soil, quality immigration, etc.).

The end result of these displays and contrasts was that each nation recognized the other as its only significant rival

and as a well-matched adversary in a region long known for remarkable international stability and domestic turbulence.

Since very early in this century, when residual colonial border disputes were settled through arbitration and on an equitable basis, substantive grounds for open conflict between the two countries have not been easy to identify.

Both nations had relatively small populations for the vast spaces that they each occupied, and few if any motives of an historical, economic, geographic, ethnic or religious nature seemed to exist that would make conflict between them probable or even possible. In a purely rational world—and ours is certainly not that—Brazil and Argentina would have long ago paved the way for intense and fruitful cooperation with each other.

To understand why this has not been so until quite recently a number of factors should be noted:

—During most of the twentieth century, Argentina and Brazil were under authoritarian regimes or under fragile civilian regimes normally subject to intense military influence, and in both countries vested interests of the military establishment had a stake in the politics of rivalry rather than in the politics of cooperation;

—During this same period both countries and their corporate establishments were under the influence of the intense mistrust and rivalry (ideological or not) that so clearly marked the first eighty years of our century throughout the world;

—In Argentina and Brazil, over many decades, "geopolitical" thinking held sway in most circles concerned with "strategic" considerations, and such thinking reinforced and provided conceptual legitimacy to a state of rivalry and mutual mistrust.

It is therefore not surprising that while the logic of cooperation and association was not actively pursued or was pursued on a purely rhetorical basis, rivalry with all its consequences was accepted as the almost inevitable lot of Powers that occupied the respective positions that Argentina and Brazil occupied in the regional and global contexts.

It is also fair to stress that in the rivalry game there was much that was simply posturing and "grandstanding" and that, by and large, political and military leaders on both sides shied away from overt conflict and did not seriously contemplate carrying the competition to its ultimate conclusion, and even at the worst of times many influential voices advised restraint and conciliation.

To understand more clearly the set of more immediate circumstances that prompted both countries at a certain point in time to change course, especially in the nuclear field, we must attempt a very brief overview of some domestic and external factors that, in the late 1980s, came into play and interacted in a rather powerful way.

It is significant to note that democratic regimes were restored in both countries more or less at the same time and after quite a few years in which poorly performing economies had created the need for more realistic policies and more cost-effective projects.

With the collapse of the Soviet Union and the end of the cold war, quite a number of assumptions and scenarios could no longer be held with any measure of credibility, and consequently a profound revision of strategic premises had to be undertaken all over the world.

The 1980s also witnessed a vigorous trend in favour of the reduction of the size and expenditure of the public sector and a parallel increase of concern regarding environmental matters.

Policies dictated largely by considerations of prestige or predicated on cold war scenarios lost a great deal of status and real or perceived threats to the environment became a major preoccupation of a public opinion critical of projects which entailed considerable expenditure and little benefit, at least from the perspective of the ordinary citizen.

The time was ripe for action and the nuclear domain was chosen by elected Brazilian and Argentinian leaders because advances here would have a profound impact on the military, industrial and scientific sectors of both societies and provide an eloquent symbol for the two recently restored democracies.

The two major South American countries were at the same time fully committed to the building of the Free Trade Zone between themselves and two other immediate neighbours, an entity that is generally known as the MERCOSUL. It is quite obvious that economic and commercial integration could not easily coexist with military rivalry and strategic planning of an adversarial nature.

It is not necessary to describe at length each step of the process that began in earnest at Foz de Iguazú in November 1985 and culminated in Vienna in December 1991.

Brazilian and Argentinian negotiators were always aware of the necessity to respond to specific circumstances that prevailed in the relationship between the two countries but they were also mindful of the need to set up procedures so transparent and so reliable that international credibility would be assured. It was essential that their efforts would not be compromised by any suspicion that the two countries were engaged in a game whereby one side would provide the other with a screen of credibility behind which nuclear programmes of an ambiguous nature would continue to be carried out.

Another strong parallel conviction was that it was necessary to engage the highest elected authorities of both

countries in the project from the very beginning and that crucial steps in this confidence-building process should be given focus by including the participation of the highest elected officials of both countries.

This explains why the Presidents of Brazil and Argentina were present at Foz de Iguazú and met again several times and finally in Vienna at the IAEA headquarters to sign, in the presence of the Secretary General of the Agency and before a wide international assembly, the fundamental documents that capped a long and complex process.

Only a passing but necessary reference should be made in this paper to the negotiations of a rather complex and inter-disciplinary nature that led to the amendment of the Tlatelolco Treaty, thus rendering more precise the scope of some of its clauses as well as updating that instrument in terms of its practical applicability. Suffice it to say that, as a direct consequence of the understanding reached between Brazil and Argentina, the Tlatelolco system at last will be rendered fully effective over the extensive geographical zone covered by its provisions.

It might be relevant to add that both the Common System of Accounting and Control of Nuclear Materials (SCCC) and the Agency for Accounting and Control of Nuclear Materials (ABACC) set up by Argentina and Brazil are functioning as anticipated, and meetings are regularly held in Rio de Janeiro and Buenos Aires. Furthermore the legislatures of both countries are by and large on track and on schedule in carrying out the necessary ratification of the appropriate legal instruments.

Building on the strength of the confidence and transparency achieved in the nuclear exercise, Brazil and Argentina have sought to extend this approach to other sensitive areas. With regard to chemical weapons, the same partners—with the welcome addition of Chile—jointly made

some significant gestures of which the Mendoza Declaration is an eloquent example.

Brazil and Argentina are looking into some possibilities to build greater confidence and better reciprocal knowledge in other sensitive areas—such as the field of missiles and space technology—where the first building blocs of what will be a long process are just beginning to be carefully placed.

One might say that South America—and especially its southern cone—is well on the way to making the subregion free from all weapons of mass destruction. This, surely, is no mean achievement.

In a less systematic but no less tangible and meaningful way, the whole gamut of questions involving conventional weapons has been favourably affected by the new climate in southern South America.

The armed forces in the subregion are clearly more willing to implement policies leading to greater transparency and to pursue in a concerted manner cooperative projects. This will be, of necessity, a long-term affair, as the very essence of confidence-building lies in the fact that each step should be taken in a relaxed and spontaneous fashion and after fundamental prerequisites have been met.

Comprehensive and practical integration schemes—and in our part of the world its symbol is MERCOSUL—have occupied the space of and funnelled the energies previously allocated to sterile rivalries and mistrust.

In the middle of June 1993, very senior military officers of the four MERCOSUL countries (Argentina, Brazil, Paraguay and Uruguay), plus observers from Bolivia and Chile, met in Buenos Aires to set an agenda for better understanding and further cooperation.

Moving along a parallel track, information on military matters (budget figures, statistics on arms transfers, etc.), once jealously guarded, are now supplied as a matter of course in response to United Nations resolutions. It should also be noted that not only has South America long been one of the most stable regions of the world, as stated earlier, but also it is a region in which the current levels of military expenditure, and particularly those in Brazil and in Argentina, are at an exceptionally low level.

Compliance by Brazil and Argentina with the appropriate United Nations resolutions, whereby military information of international relevance is to be widely disseminated, is quite thorough. The diplomatic missions of both countries in Geneva and New York maintain active cooperation with the Office for Disarmament Affairs, with the Secretariat of the Conference on Disarmament and with UNIDIR, and a steady flow of reliable information is conveyed to the established bodies of the United Nations system concerned with disarmament and arms limitation.

Another development that should be noted and praised is the growing participation of military personnel from our subregion in peace-keeping operations and the willingness of our Governments to do even more, on a selective basis, and within national budgetary constraints.

Summing it all up and attempting to make a personal assessment from our regional perspective, I think that it can be said that the part of the world from which I come feels that, with most of its external security concerns adequately dealt with, it can make a not insignificant contribution to the strengthening of peace elsewhere by way of example and through participation in operations mandated by the United Nations or conducted, under different rules, under the aegis of the Organization of American States.

Another important contribution that our countries could make—as they have done in the past—is in the promotion of a new agenda for disarmament and arms control negotiations free from the constraints, rigidities and dogmas prevailing during the cold war years

Extraordinary opportunities and challenges lie just ahead of us. The nuclear non-proliferation Treaty will be re-examined at its forthcoming Conference in 1995, and the new international environment could possibly allow the rectification of certain imbalances which have flawed this important instrument.

My own country has sought to obtain observer status in the preparatory stages of the 1995 Conference, thus signalling our profound commitment to the cause of non-proliferation and our desire to listen and be listened to during this crucial preliminary period.

It is perhaps not appropriate for non-signatory countries to get overly involved in the review process of an international instrument to which they are not parties. It is my view, however, that Governments which are obviously committed to the goal of curbing nuclear weapons proliferation and are respected members of the international community could be helpful in further defining an appropriate regime—or regimes—that would make the world safer against the spread of nuclear arms.

The fiftieth anniversary of the United Nations—also in 1995—should provide us with an opportunity to look again at its Charter, which is the fundamental document guiding international relations in our time, to seek with wisdom and restraint possible ways to render the principles set out in San Francisco more universally applicable and to make the Organization's machinery more effective and more responsive to the needs and expectations of the world in which we live.

Just as in 1945 a brief window of opportunity opened, so 1995 may offer another such moment. It must be seized with imagination and vigour—as history has shown that the construction of a safer and happier world is not a linear and incremental achievement, but rather the result of crucial, if fragile, moments which happen only from time to time and have been shown to be precarious and short-lived.

To take full advantage of such opportunities, adequate instruments have to be available to achieve the desired results. The United Nations should increase and reinforce its disarmament and arms control machinery to take full advantage of the present favourable winds.

We are well served by the Secretary-General's report entitled *New Dimensions of Arms Regulation and Disarmament in the Post-Cold War Era*,[1] which provides a wealth of ideas which should of course be examined and pursued.

The Conference on Disarmament and the dedicated people—both delegates and staff—that make it work should be strengthened so that the multilateral approach to questions that in one way or another affect all of us may be given a new lease on life. The Conference on Disarmament should be able to show how much more can be accomplished now that imagination and energy have been unshackled to do all that remains to be done.

In Geneva, in New York and elsewhere, new ideas and new impetus should converge so that objectives that for many decades were *de facto* unattainable—such as a CTBT—should now be at the top of our agenda as practical and urgent objectives.

It is quite obvious that a CTBT should become the major objective of disarmament negotiations over the next two years and that the Conference on Disarmament should be adapted so as to enable it to act as a credible and effective forum for these crucial negotiations. It is my belief that the

pursuit of a comprehensive test ban treaty is a major task which would provide the multilateral disarmament process with an important focus.

It is never repetitive—from my standpoint—to say that only multilateral negotiations, conducted in a fair and open manner, can provide the legitimacy indispensable for long lasting disarmament and arms control instruments.

In this context it is encouraging to observe that the UNDC—which just a few years ago was lingering—has been given a new lease on life and is undertaking important studies, specifically on the complex and timely issue of sensitive transfers of science and technology. It seems evident that informal "clubs" and arrangements operative in this field should be replaced by formal arrangements that would emerge from ample and responsible negotiations between concerned parties.

It is clear to me that in a time of diminished tension we should not rest on our oars but move forward at the greatest possible speed.

Our founding fathers are still revered because in San Francisco they realized that global and permanent peace should be pursued when a precarious truce had been achieved.

Note

1 *New Dimensions of Arms Regulation and Disarmament in the Post-Cold War Era* (UN publication, Sales No. E.93.IX.8)

Peace and Denuclearization: An Israeli Perspective

Avi Beker

It is already apparent that the end of the cold war did not usher in the "end of history". Reality has intruded rudely, ricocheting from crisis to crisis against the high hopes and expectations of the post-cold war. The post-cold war geopolitical situation presents us with a complicated and bewildering puzzle of threats and dangers. Instead of a clear and present danger, we see a diffusion of threats and the forces of separatism and fragmentation feed new tensions and conflicts. The demise of the cold war has favoured and revived the old type of conflicts which were dormant for awhile: civil, ethnic and religious wars, or worse, a blend of all three, as in Bosnia. With the lack of a super-Power's tight control, sources of unrest are no longer kept in check and ethnic rivalries have reignited with even more lethal fury. The spread of violence, inter-State and intra-State, has clearly marked the "return of history".

In political theory there are contending approaches to the relationship between the distribution of power and international stability. Some theoreticians claim that a bipolar world is safer since it tends to be a tight system where all actors must be aligned with one of the rival blocs. In such a system there are no vacuums, no room for uncontrolled regional conflicts. Nuclear proliferation, for instance, is manageable under the watchful eyes of the "big two". Multi-polarity, say

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these analysts, increases the chances of war because of sheer statistical probability; the more ambitious actors you have, the more wars are likely to occur.

Others argue differently, claiming that "as the system moves away from bipolarity toward multi-polarity, the frequency of war should be expected to diminish".[1] There is an assumption that major alliance systems reduce the freedom of their members to interact with outside countries. Basically, this is the school of thought which regards interaction among States as producing "cross-cutting loyalties", which encourage integration and reduce hostility.

The collapse of communism and the disintegration of the Soviet Union have dealt a major blow to many Sovietologists as well as to cold war analysts. The post–cold war era places some major question marks on the conventional wisdom of "integration" and "functional" theories in international relations. Particularly with regard to those aspects related to crisis management and arms control, the days of the cold war may be looked upon as a preferable framework for stability. During the cold war the super-Powers tried hard to increase their influence and to manipulate events to their own advantage. However, at the same time, their rivalry was carefully controlled and both sides strove to avoid dangerous crises which might have led to a global war. As a matter of fact, they carefully developed an operational code of tacit and explicit rules of behaviour and engagement. Moscow and Washington have observed these rules with the clear aim of limiting and controlling regional conflicts throughout the world. This super-Power cooperation was expressed in an outstanding way in the field of nuclear arms control.

The nuclear non-proliferation Treaty was an obvious product of the cold war regime of bipolarity. In developing countries it was regarded as another attempt to maintain the gap between the "haves" and the "have nots". The inequality

and disproportion of rights and duties under the NPT were the cause of the loudest protests and criticism in different United Nations forums. The Treaty was regarded as "explicitly and officially, an unequal treaty"[2] and was perceived "as the most visibly discriminatory of the post-war arms limitation agreements".[3] The Non-Aligned Movement, which, at its foundation in 1961 criticized the super-Powers for their arms race and the threat of their nuclear build-up, later did not like *détente* and *rapprochement* between Moscow and Washington, viewing them as a ploy to maintain super-Power superiority and nuclear monopoly. The non-aligned rejection of both rivalry and cooperation between the super-Powers was expressed eloquently in a proverb used by the Foreign Minister of Sri Lanka in his capacity as the Chairman of the Movement: "When two elephants get together whether to fight or to make love, the grass and shrubs always get crushed".[4]

In the 1970s, developing countries entertained great illusions about their ability to establish a so-called New International Economic Order (NIEO). The Arab oil embargo of 1973 and the ensuing panic with the quadrupling of oil prices were viewed as *models* for the reallocation of resources from North to South. In this context the NPT was regarded as a symbol of the evils of inequality in the world and as a major obstacle to efforts to reform the international order. When the first United Nations special session on disarmament was convened in 1978, the developing countries viewed disarmament mainly as part of the NIEO struggle:

> "The primary task for Southern strategists is to postulate a credible and attainable field theory organically linking disarmament to the main collective task of the South—the New International Economic Order".[5]

Similarly, the Foreign Minister of Sri Lanka stated, on behalf of the non-aligned countries:

"We hold that disarmament is not only a political question, but also an integral element in the new international order, and its co-relationship with development is an extremely close and critical one".[6]

At the end of the 1970s, two different studies by SIPRI, which is known for its general support for the United Nations system and for the plight of developing countries, blamed those countries for distorting the arms control aspects of non-proliferation. This was particularly worrying because of the NPT provisions for the transfer of nuclear technology for so-called peaceful uses. The NPT, SIPRI argued, "cannot deal with the potential for weapons proliferation inherent in the expansion of nuclear energy".[7]

In United Nations debates, the non-aligned countries did not seem to be worried by the loopholes and weaknesses of the NPT and its safeguards. Instead, in their collective position as well as in statements by individual States, the developing countries revolted against the "unequal" regime of non-proliferation. In order to encourage further distribution of power, they emphasized the promotional role of IAEA and at the same time belittled its role in preventing nuclear weapons proliferation. As pointed out by the SIPRI study, the rift between the developing countries and the nuclear Powers, which had developed along North-South lines, "presents a real threat to the NPT's survival".[8] The rift could not be bridged because it represented two opposing visions of international order and distribution of power. The developing world has committed itself under the NIEO platform to eliminate the sources of discrimination and inequality in the international system. The super-Powers, on the other hand, shared a common interest in maintaining a "manageable" international system that could be endangered by the emergence of additional and smaller nuclear Powers. Thus the division of the world into "haves" and "have-nots" served the super-Powers' interests. The critics of the NPT pointed out that this

was "unfair". However they failed, perhaps knowingly, to understand that *balance* in international relations is *balance of power*, which has nothing to do with the concept of equality or mutuality of obligation. The super-Powers intended to do exactly what they are criticized for: to concentrate in their hands the major responsibilities in the world order and, therefore, they developed this "clever design to get the NPT to function as a seal on the super-Powers' hegemonic world policy".[9] In sum there should be no illusions about it:

> "... there is a clash between the nuclear super-Powers who stress the benefits of inequality, and the non nuclear weapon States, who seek to minimize the implications of hierarchy by stressing the benefits of equality".[10]

Unsafeguarded Iraq

This hostile view of bipolarity and of the "discriminatory NPT" can explain the developing countries' attitude of benign neglect towards and even support of Iraq's attempt to acquire nuclear military potential. Observers welcomed "the militarization of petrolpower" by the oil-producing countries as an important step in changing the international order. Professor Ali Mazrui, for instance, recommended using the "barrel of oil" to buy arms and even nuclear weapons capacity in order to bring about a "new international military order" on the way to creating a "new international economic order".[11] Ali Mazrui was a leading proponent of the "Islamic bomb", and called several times for further proliferation of nuclear weapons in the Middle East and Africa.[12] Ironically, he was appointed to the Group of Experts appointed by the Secretary-General of the United Nations, which prepared a report on Israeli nuclear armament.[13]

While the attitude of the developing world was a mixture of benign neglect and satisfaction, Western countries

turned a blind eye to Iraq's nuclearization programme. The evidence of Iraq's nuclear weapons programme had been in the public domain as far back as the late 1970s. On 17 March 1981, Senator Alan Cranston told the United States Senate that, according to authoritative assessments, "the Iraqis are embarked on a Manhattan project-type approach—they are pursuing all avenues which could provide them with a capability to produce nuclear explosives". The Senator's concerns were heightened by the fact that Iraq was governed by what he termed "a radical, military aggressive regime which routinely employs terrorism to advance its aims".[14] For Flora Lewis, a prominent columnist of the *New York Times*, the Iraqi goals were clear:

> "Certainly, despite all denials, Iraq's purpose in building the reactor was to gain possession of the nuclear weapon. It was primarily to challenge Israel's right to exist, but also to shift the power balance in the profound rivalry among Arabs."[15]

More then 450 Western companies helped to build Saddam Hussein's nuclear machine, sending thousands of technicians and signing lucrative commercial contracts to work in Iraqi weapons industries. The Iraqi death threat to other States was persistently nurtured by the cavalier and irresponsible policies of an informal coalition of bankers, arms salesmen, technology brokers, diplomats and governmental officials, as well as arms control proponents. Between 1984 and 1989 alone, Iraq enlisted foreign Governments, corporations and technological know-how at a cost of over $14 billion. A large number of countries, mainly from the West and particularly West Germany, France and the United States, are cited as members of the "death lobby".[16] The Iraqi Foreign Minister, Tariq Aziz, was right when he said that, "for Europe, the primary supplier of weapons to the Middle East, to be outraged and shed crocodile tears is pure hypocrisy".[17]

In June 1981, when the Israeli air force attacked the Iraqi nuclear reactor at Osirak, the raid was condemned by the international community and the United Nations Security Council resolution 487 (1981) defined the attack as a "clear violation of the Charter of the United Nations and the norms of international conduct". In January 1991 the United States, in a virtual replay of the Israeli air raid, bombed Iraqi nuclear research reactors received from France and the Soviet Union. Indeed the war effort of the United States and its allies was sanctified by the United Nations Security Council, but the bombing of the reactors amounted to a violent abandonment of the NPT and its safeguards system. Two years later, on 17 January 1993, the United States launched an intensive attack by 40 Tomahawk cruise missiles on what was described as a plant which manufactures components for the Iraqi nuclear programme.

On 28 October 1991, the American Secretary of Defense, Richard Cheney, made a major revision in the American public posture with regard to the attack on Osirak:

> "And let me tonight in front of this group thank my good friend David Ivry for the action Israel took in 1981 with respect to the Baghdad reactor. There were many times during the course of the build-up in the Gulf and the subsequent conflict that I gave thanks for the bold and dramatic action that had been taken some ten years before."[18]

Major General (ret.) David Ivry, the Director General of the Israeli Ministry of Defence, was the Air Force commander on 7 June 1981, when 16 Israeli F-15 and F-16 jet fighter bombers dropped 16 MK 84 iron bombs on the Osirak nuclear reactor. This statement of the American Secretary of Defense stood in sharp contrast to the harsh reactions from the United States Administration at the time of the bombing.

In 1981, IAEA officials preferred to criticize Israel rather than address the loopholes that had been exposed in the safeguards regime. From a narrow bureaucratic perspective, the Director General of IAEA was right in concluding at that time that the Israeli operation was an attack on the credibility of the Agency's safeguards system.[19] Eleven years later, the Director General would be courageous enough to admit: "It is a chilling thought that if its armies had not invaded Kuwait in August 1990, Iraq might soon have had a nuclear bomb."[20]

Cheating and abrogation

Iraq showed the world the perilous and shaky nature of the NPT and its regime aimed at providing the developing nations with nuclear technologies in return for their commitment to "give up" their ambitions to acquire nuclear weapons.

The system of safeguards provided by the NPT consists of there main elements: material accountancy, containment and surveillance. All are aimed at enabling "timely" detection of diversion of "significant" quantities of nuclear material from peaceful activities to the manufacture of nuclear explosive devices. Experts agree and the IAEA itself admits that there are limits to the extent to which the Agency is able to detect diversions and to guarantee an effective international response to a non-proliferation violation, even when it is detected.[21] Leonard Spector put it unequivocally, stating that the NPT "was ineffective in restraining Iraq's quest for nuclear arms, raising questions about the utility of this pact as a curb on proliferation elsewhere in the region". He added that the "failure of the IAEA to detect many of the violations committed by Iraq has raised serious questions about the effectiveness of the IAEA and the NPT".[22]

Despite the serious criticism of its "discriminatory" nature and the evident inadequacy of its safeguards system, the NPT has succeeded in enlarging its membership, reaching

156 parties by the beginning of 1993. The universal outreach of the NPT is very impressive and it has contributed, no doubt, to non-proliferation efforts. Yet, in the Middle East and in other conflict-prone areas, the Treaty may create a false sense of security and can be exploited as a strategy for the acquisition of nuclear arms.

During the hearings on the NPT in the United States Senate in 1968, Secretary of State Dean Rusk and Army Chief of Staff General Earl G. Wheeler made it clear that the Treaty "does not apply to a situation of war" and that in a war situation, it "immediately becomes inoperative".[23] In the harsh realities of the Middle East, this logic renders the withdrawal clause in the Treaty an absurdity. Article X of the NPT allows any party, if it so chooses, to declare at anytime its intention to withdraw from the Treaty after a period of three months. In other words, the IAEA system provides every State with what has been termed its "promotional role", namely, maintenance of a "peaceful" nuclear programme for as long as possible, virtually up to the threshold of making nuclear weapons. When ready, a State may merely notify IAEA and exercise its "national sovereignty", as stipulated in the NPT, and withdraw from the Treaty.

In March 1993 North Korea dealt another blow to international non-proliferation efforts when it became the first nation ever to denounce the Treaty, barring the door to international inspectors who were on the trail of a secret cache of plutonium. How effective is a treaty that allows a country to develop nuclear weapons for seven years while barring inspectors, and that is denounced as soon as the first inspectors at the door become suspicious? In the Middle East, where Israel's right to exist is not yet recognized by all countries, the risk of unilateral withdrawal from the NPT is even higher.

It is pointless and dangerous to expect a Government in the Middle East to alert its declared enemies by giving them

three months' notice. It would be more realistic to expect immediate denunciation of NPT obligations in a war or crisis. Indeed, in November 1980, Iraq blocked IAEA inspection for several months on the grounds that it was in a state of war with Iran.[24]

In October 1990, a report of a group of experts appointed by the Secretary-General of the United Nations expressed some understanding of the unique situation of Israel. In unprecedented language, the report explained the threat to Israel from long-range and accurate ballistic missiles and its growing vulnerability to a situation of prolonged warfare. On the problem of denuclearization, the United Nations report stated:

> "Against this background, it is appropriate to point out that Israel's security position is characterized by three features that cannot but play a part in determining its attitude towards the creation of a nuclear-weapon-free zone: the relatively small size of its territory, the sustained hostility between itself and the great majority of States of the region, and the fact that it has no military allies in the region and that the one State that might support it in a conflict is geographically remote."
>
> "... However, it is most unlikely that Isreal will give up the security it believes it now derives from its nuclear ambiguity, its presumed deterrent and its eventual weapon of last resort, without a much higher degree of assurance that such a conflict will not occur, as well as compensation in terms of arrangements to enhance regional security in all of its multiple and complex dimensions, conventional as well as chemical and nuclear, political as well as military."[25]

Regional denuclearization

Arab posturing on arms control in the Middle East resembles the propagandist approach of the Soviet bloc during the days of the cold war. Like the Soviets, the Arabs try to avoid discussions on the conventional arms race in their region. Instead, the focus of Arab speeches and initiatives in the field of arms control aims at "exposing" the threat of the alleged Israeli nuclear capability as the key to the military instability in the Middle East. They also disregard Israeli demands for "confidence-building measures" in the military field, and ignore the essential political component of recognition and negotiations on arms control measures. Also, like the Soviets in the European context during the cold war, the Arabs refuse to approach arms control as a process of "mutual and balanced" reduction of arms. They demand "nuclear disarmament first", without taking into account other components of the Arab-Israeli balance of forces.

The Egyptian formula for a nuclear-weapon-free-zone in the Middle East cannot be regarded as a regional approach to nuclear non-proliferation. As a matter of fact, the Arab call for a nuclear-weapon-free zone in the Middle East does not offer anything in terms of regional cooperation, negotiations or improvements in mutual confidence. Arab reactions to Israeli proposals for such a zone reflect a permanent refusal to participate in a multilateral, treaty-writing conference. The special characteristics of the Middle East conflict make the existing NPT measures especially fragile, and thus require different arrangements.

These Israeli concerns, also reflecting the "linkage" between conventional and nuclear arms control, were spelled out officially:

> "The pressure on Israel to put its nuclear installations under full-scope safeguards ignores, for the sake of principle, Israel's special concerns, which were

recently illustrated by the Gulf war. In particular, the Arabs' refusal to negotiate a nuclear-weapon-free-zone with Israel, and their insistence on keeping up international pressure for Israel to include full-scope safeguards, does not bode well. Israel views this as an attempt to keep it well controlled in the nuclear realm while retaining the option of waging war against it. Israel needs a sustained climate of confidence in order to see things differently.

> "Israel needs to be reassured, above all, that there is a will to redress its precarious situation, as described in the report. Confidence-building by way of direct negotiations and advances in the political process must precede confidence-building measures of a technical nature. The latter feed on the former."[26]

Moreover, it must be emphasized that despite the attitude of the international media and Arab declarations that take Israeli nuclear military potential for granted, the nuclear factor cannot be treated as another element in the Middle East regional "theatre". Israel has never incorporated the nuclear doctrine into its strategic posture and even during difficult times, under military stress (during the Yom Kippur war of 1973, or during the Iraqi Scud attacks on its civilians in 1991 with the persistent threat of chemical and other non-conventional Iraqi missiles), there was no explicit reference to the nuclear factor in Israeli calls for retaliation. The permanent factor in Israel's policy of "nuclear ambiguity" has transcended all other ideological and party-line divisions between hawks and doves. There has never been any official hint that Israel may move towards an open nuclear posture, and calls by a few analysts for this were rejected forcefully by both the right and the left in Israel as irresponsible and dangerous.[27] Some critics of the Israeli posture suggested replacing the term "ambiguity" with "opacity", to reflect a situation in which the public is sharing the secret consciously with the leadership.[28]

For many years Israel declared its willingness to negotiate a multilateral treaty, encompassing all nations of the Middle East, to establish a nuclear-weapon-free zone in the region. The Israeli proposal, introduced in the United Nations as early as 1980, calls for the provision of "a contractual assurance of others' compliance with the commitment to abstain from introducing nuclear weapons into the region". The Israeli initiative was rejected by the Arab States, which regarded it as an Israeli ploy to force on them recognition and negotiations with Israel.[29]

The natural model which comes to mind, and is also brought up by Israeli spokesmen, is the 1967 Treaty for the Prohibition of Nuclear Weapons in Latin America and the Caribbean, commonly referred to as the Treaty of Tlatelolco. This Treaty, which preceded the NPT, created the first nuclear-weapon-free zone in an inhabited area—a region covering some 7.5 million square miles with a population of 250 million people.

The nuclear-weapon-free zone in Latin America falls short of perfection because of such ambiguities as the question of peaceful nuclear explosions, the geopolitical extent of the Treaty and the fact that several countries are not bound by its provisions. The Treaty itself, however, with its verification provisions, is considerably superior to the NPT. Unlike the partial test ban Treaty (PTBT) and the NPT, the Treaty of Tlatelolco defines nuclear weapons (article 5), and it enumerates more specifically the obligations of the parties. Protocol II of the Treaty obligates the nuclear-weapon States not to threaten or use nuclear weapons against States in the zone—a so-called negative security assurance, which is absent from the NPT. But most significant is the comprehensive system of verification provided by the Treaty of Tlatelolco, which—in addition to IAEA safeguards—established a permanent organ of its own to assure compliance and to perform inspections. This body, the Organization for the Prohibition of Nuclear

Weapons in Latin America (OPANAL), provides for challenge inspection when requested by its General Secretary or when any member may suspect a violation. Such a system strengthens confidence concerning diversions of weapons-grade material and makes it easier to detect a violation after a diversion has taken place.

The various provisions of a treaty on a nuclear-weapon-free zone in the Middle East should be left to the give-and-take of diplomacy. The degree of cooperation between the parties will determine their ability to address the special characteristics of the Middle East. From the Israeli position, one can infer that a treaty on a zone in the Middle East must go beyond the NPT and IAEA safeguards and even beyond arrangements which are not yet functioning in the Treaty of Tlatelolco.

A nuclear-weapon-free zone in the Middle East will require a reliable and workable challenge system such as the Latin American one under OPANAL, but with greater inspection powers based on mutuality. The permanent inspection organ of the zone will have to address the problematic overlap between peaceful and explosive uses of nuclear materials. One possible option for mutual security which is discussed in the professional literature is the permissive action link (PAL), a lock without which the reactor, enrichment plant or plutonium separation plant cannot operate. The locks would have different numeric combinations held by the parties, and any attempt to tamper with the locks would be forestalled by an automatic shutdown of the facility.[30] Such a regional zone should be accompanied by parallel, and not less dramatic, steps by the industrialized Powers which are exporting nuclear technology and know-how. A new control regime for nuclear exports must be created in order to establish tougher and manageable guidelines (the Glenn bill of the Nuclear Non-Proliferation Act of 1992 is a good example). The new guidelines should take precedence over commercial and trade considerations, which are always

interfering with non-proliferation policies. At the same time the transfer of technology and any licensing to countries in the zone should be transparent and under permanent review. Special effort should be made to include all suppliers of nuclear technology in such a regime.

Peace and non-proliferation

The change of Government in Israel, in July 1992, made the Israelis more forthcoming on the participation of the Europeans and the United Nations in the multilateral peace talks, including the arms control group. It is encouraging that both sides, Arabs and Israelis, do not dismiss the option of arms control. In recent years in Israel, arms control has received high priority and there are special units which deal with the subject in the Foreign and the Defense Ministries. However, since arms control and particularly the nuclear issue touch upon existential problems and sensitivities in Israel, no policy changes were made in this field.

In outlining his new Government's policy in his first address to the Knesset, Prime Minister Rabin said: "The government, from its very outset—and possibly in collaboration with other countries—will address itself to thwarting any possibility that one of Israel's enemies will possess nuclear weapons".[31] Rabin seemed to offer a political track to prevent the spread of nuclear weapons, with possible international cooperation, but did not exclude other means as well. In fact Prime Minister Rabin was reinforcing the words of Israel's Air-Force Commander Major-General Herzel Budinger, who had said a month earlier: "We must create the greatest disruption, whether military or political, in order to prevent the introduction of nuclear weaponry in the region".[32]

There is a temptation to draw analogies between the European success in the field of arms control and the potential for agreements in the Middle East. But the 1987 INF Treaty

and the 1990 CFE Treaty cannot be divorced from the political drama in Europe, which brought about the downfall of the Soviet empire and the disintegration of the Warsaw Pact. Basically, there seems to be a strong correlation between the spirit of glasnost (openness) and developments in arms control.

The Helsinki process of the Conference on Security and Cooperation in Europe comprised three so-called "baskets": confidence-building measures and arms control; economic and technological cooperation; and human rights, dealing with cultural cooperation, free movement and communication. If the European experience can be taken as a lesson, it should be noted that the 15 years of virtual deadlock in arms cuts in Europe were broken only when significant changes took place in the third basket. The granting of certain measures of human rights and freedom preceded the process of confidence- and-security-building measures in Europe. It was a process in which the reality as well as the perception of the Soviet Union as an enemy were completely shattered. Even before the breakdown of the Soviet Union and the fall of President Gorbachev, the Soviets manifested a profound eagerness to demonstrate that they did not pose a threat to Europe and the West.

Institutions such as the Helsinki process do not exist in the Middle East and a "human rights" basket seems problematic. Arms control in the Middle East will, in the meantime, have to concentrate on confidence-building measures which can be sustained by continuing means of deterrence. At the same time, the industrialized Powers should strengthen their coordination in order to prevent the transfer of conventional arms and other components of weapons systems of mass destruction, particularly nuclear, to the Middle East. Measures such as the NPT have proven counter-productive and even threatening in the Middle East. As long as its neighbouring countries do not change their political systems and become open, democratic societies, it will be difficult for Israel to lower its deterrence capabilities. A foolproof process of

denuclearization will have to await stable and genuine peace agreements between Israel and all its neighbours.

Notes

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2 Michael Mandelbaum, *The Nuclear Question: The United States and Nuclear Weapons 1946-1976* (Cambridge, Cambridge University Press), p. 194.

3 Stockholm International Peace Research Institute (SIPRI), *Postures for Non-Proliferation* (London, Taylor & Francis, 1979), p. 8.

4 Avi Beker, *Disarmament Without Order, The Politics of Disarmament at the United Nations* (Westport Connecticut, Greenwood Press, 1985), p. 59.

5 Tarig Osman Hyder, "Inchoate aspirations for world order change", *International Security*, vol. 2, No 4 (Spring 1978), pp. 56-57. Hyder was a director in the Pakistani Ministry of Foreign Affairs.

6 *Official Records of the General Assembly, Tenth Special Session, Plenary Meetings*, 4th meeting (A/S-10/PV.4), 25 May 1978, p. 7.

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Africa and the International Nuclear Non-Proliferation Regime

Gift Punungwe

Introduction

Africa's position on the question of the non-proliferation of nuclear weapons has been consistent and well-articulated. African States are opposed to the proliferation of nuclear weapons, whether such proliferation is vertical or horizontal, and they have sought to combat that development not only through rational argument and international discourse, but also by concrete action. African States have been at the forefront of non-proliferation efforts from the beginning, and have contributed to the success of the non-proliferation regime not only through adhering to the Treaty on the Non-Proliferation of Nuclear Weapons and to the Statute of IAEA and through entering into safeguards agreements with the Agency, but also through efforts, begun in 1964, to establish a nuclear-weapon-free zone in Africa. This article shall therefore involve tracing the role and contribution of the African States to the present international nuclear non-proliferation regime and current efforts aimed at strengthening that

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regime not only by way of support for its central edifice, the NPT, but also by way of establishing a NWFZ in Africa.

Contribution to the current international nuclear non-proliferation regime

As early as 1959, African States prodded the General Assembly to pass a resolution restraining France from conducting atomic tests in the Sahara. In 1961, after France had conducted tests, the African States persuaded the General Assembly to adopt a resolution whereby all States were requested to consider and respect the continent of Africa as a denuclearized zone.[1] African States were so supportive of the idea of international efforts aimed at curbing the nuclear arms race and the horizontal proliferation of nuclear weapons that, at the very inception of the OAU, at Addis Ababa in 1963, African States *as a group* welcomed the Moscow Treaty, which drove nuclear testing underground, and urged OAU members to accede to it. Again at Cairo, in 1964, African States endorsed the international approach to curbing the proliferation of nuclear weapons when the Heads of State and Government of the OAU, in adopting the Declaration on the Denuclearization of Africa, stated their readiness to undertake, in an international treaty to be concluded under the auspices of the United Nations, not to manufacture or otherwise acquire control of nuclear weapons.[2]

From the foregoing it is hardly surprising that African States welcomed the NPT when it was negotiated in 1968. Today, 46 of the 54 African States are parties to the NPT and a significant number have concluded safeguards agreements with IAEA, as required under the Treaty.

Africa's contribution to global non-proliferation efforts is proceeding apace even now. The continent has participated constructively in the Review Conferences of the NPT and sought, by example and by assisting in the search for a better

balance in the Treaty, to bring it to its goal of universality and enhance its moral standing. Even as of now, African States are poised to play a pivotal role at the coming extension Conference of the NPT, in 1995. With its 46 parties, Africa will be a crucial factor in the decision to be taken by a majority of the parties concerning the extension of the Treaty. Africa also has ample capacity to contribute to global non-proliferation through its role as a supplier of uranium and also through efforts aimed at the establishment of a NWFZ in Africa. As most of Africa's producers of uranium are parties to the NPT, they are now enjoined to apply the system of non-proliferation controls in the NPT in the conduct of their exports of this vital product. Equally, if the efforts at present under way to establish a NWFZ in Africa bear fruit, African States will again have made a significant contribution to the international nuclear non-proliferation regime. They will have done this first by removing a sizeable portion of the globe from the realm of nuclear competition, and secondly by the power of the example set for other regions, perhaps inspiring them to try harder to achieve the same in their own areas.

Current efforts to achieve implementation of the Declaration

As stated above, the African wish to preclude and proscribe the extension of the nuclear arms race to Africa was expressed more than a generation ago. Indeed, the Rapacki plan for Central Europe notwithstanding, the very concept of a nuclear-weapon-free zone owes its genesis and appeal in part to those African efforts of the late 1950s and early 1060s. African States were the first to originate, articulate and endorse, *as a group*, the concept of limitation of the tentacles of the nuclear arms race by geographical region.

Many arguments can be adduced to explain the hiatus in activity to establish a NWFZ in Africa after 1965. Immediate-

ly self-evident factors are: (*a*) the prophylactic effect on the African security situation of the global efforts aimed at curbing the wider dissemination of nuclear weapons that culminated in the conclusion of the NPT in 1968; (*b*) the transfer of French nuclear tests from Africa to the South Pacific in the mid-1960s, and (*c*) the disturbing development of the search for a military nuclear capability by South Africa from the early 1970s, which posed a serious security dilemma for African States with regard to how they would respond.

Of the factors mentioned above, the most important was the South African quest for a military nuclear capability. That quest was a direct challenge to the African concept of a continent-wide NWFZ. Moreover, the confrontational relations between that country and the rest of Africa made that capability particularly malevolent and therefore objectionable to African States. It was thought that a NWFZ that excluded South Africa would not be effective enough to achieve the security objectives of the African States. Moreover, in the international environment prevailing during the cold war, it was not clear what obligations the nuclear Powers and countries responsible for colonies or other territories within the area of the proposed zone would be prepared to undertake towards the zone. Plans for the denuclearization of Africa therefore remained largely on the shelf.

Beginning in 1989, there occurred a sea-change in the international environment. The cold war effectively came to an end. And with the end of the cold war, several intractable regional crises, including the South African crisis, appeared ripe for solution. In tandem with its process of democratization at home, the South African regime discarded its confrontational stance with Black Africa. On 10 July 1991, South Africa acceded to the NPT. On 16 September 1991 the country concluded a safeguards agreement with IAEA, and later the same year the representative of South Africa informed the IAEA Board of Governors that not only did

South Africa no longer possess nuclear weapons or undeclared nuclear materials or operate any clandestine nuclear plan, but it also supported the 1964 OAU Declaration on the Denuclearization of Africa, and it would be ready to contribute to the establishment of a NWFZ in Africa.

Already on 4 December 1990, the General Assembly of the United Nations had passed a resolution requesting the Secretary-General "to provide all necessary assistance that the Organization of African Unity may seek regarding the convening, at Addis Ababa during 1991, of a meeting of experts to examine the modalities and elements for the preparation and implementation of a convention or treaty on the denuclearization of Africa".[3]

The meeting held by the experts at Addis Ababa from 6 to 10 May 1991 may be rightly regarded as the start of the second phase of efforts to establish a NWFZ in Africa. Although, in response to a directive from the Council of Ministers, the OAU Secretariat had as early as 1964 put together a draft convention for the denuclearization of the continent of Africa,[4] it is the process started at Addis Ababa in 1991 that appears to be the first sustained attempt to transform the verbal African expression of will to establish a denuclearized zone into a viable legal instrument designed to achieve that objective.

There have been so far three meetings of the Group of Experts. The meetings in Addis Ababa (6-10 May 1991) and Lomé (28-30 April 1992) were largely brainstorming sessions where the experts exchanged ideas on the modalities and elements for the preparation of a treaty or convention. The Harare session (5-8 April 1993) was qualitatively different in that experts actually engaged in drawing up a draft treaty. Because of this changed focus, the Harare meeting, in addition to the original Group of Experts, also included delegates from Senegal and Mauritius, expert observers from South Africa (ANC, PAC and Government) and an expert from IAEA.

For the purpose of this article, however, the three meetings shall not be treated in chronological order. Every idea shall be considered from its inception in discussions among experts up to the manner, if any, in which it was incorporated in the draft treaty.

From the outset it was clear to the experts that their effort should be informed by (*a*) the 1964 Declaration; (*b*) the international trends in the field of disarmament and security; (*c*) the development of the concept of nuclear-weapon-free zones as enunciated in the 1975 and 1982 United Nations studies on the subject, and as put into practice by the Tlatelolco and Rarotonga Treaties; and (*d*) the objective circumstances of the African continent. For example, Africa is the only region attempting to establish a NWFZ where a State that had developed nuclear weapons is to be included in the area of the zone.

Regarding the choice of the name of the instrument—convention or treaty—the experts opted for the latter. They were aware that the 1964 Declaration stipulated either/or, and that the draft prepared by the OAU Secretariat in 1964 in fact referred to a convention. But they believed that "treaty" was more appropriate, in tune as it is with the similar instruments of Rarotonga and Tlatelolco.

A more complicated issue revolved around the question whether to call the denuclearization regime a "nuclear-weapon-free zone" or a "nuclear-free zone". The attraction of the latter was mainly in that the title itself would imply anti-dumping aspects and circumscription of all nuclear explosive devices, rather than dedication to the prohibition of nuclear weapons only. However, such a title would suggest also the proscription of peaceful uses of nuclear energy, and that was judged to be its fundamental flaw. Thus, the African treaty will be called a NWFZ treaty to underscore the right and intention of African States to avail themselves of the peaceful applications of

nuclear energy. It is true that African States are also wary of the dangers of a loophole allowing peaceful nuclear explosive devices and realize that the utility of the technology of peaceful nuclear explosions has not been proven. It is equally true that African States are against the dumping of radioactive and toxic wastes. But it was felt that these concerns should be addressed in the treaty's provisions rather than be reflected in the title. Consequently, articles 3, 4 and 5 of the draft treaty, which deal with renunciation; prohibition of testing; and declaration, dismantling, destruction and conversion, refer to nuclear explosive devices rather than to nuclear weapons. The draft contains specific provisions on the prohibition of the dumping of radioactive wastes.

In elaborating the draft treaty, the experts used the following elements which, for easier treatment of the subject, shall be used in this discussion: preamble; renunciation of nuclear explosive devices; prohibition of testing of nuclear explosive devices; declaration, dismantling, destruction or conversion of nuclear explosive devices and the facilities for their manufacture; prohibition of dumping of radioactive wastes; peaceful nuclear activities; verification of peaceful uses; physical protection of nuclear materials and facilities; mechanism for compliance; reports and exchange of information; amendments; reservations; duration and withdrawal; signature; ratification and entry into force; depositary functions; status of the annexes; IAEA safeguards; African Commission on Nuclear Energy; complaints procedure; protocol to be signed by the nuclear Powers not to attack States of the zone; protocol to be signed by the nuclear Powers not to test or assist or encourage the testing of nuclear explosive devices anywhere within the zone; and protocol to be signed by extra-zonal States internationally responsible for territories within the zone. All these elements, except the preamble, were dealt with by the Harare drafting group. With regard to the preamble, it was felt that its content would be best

decided upon in the context of a clearer understanding of the provisions in the body of the treaty and that, therefore, it should be considered last. There was no time to consider it at Harare, however. In all, at Harare the experts drew up a draft treaty of 18 articles, 4 annexes and 3 protocols.

At the outset the experts considered the question of usage of terms for the purposes of the treaty and its protocols. The terms singled out for definition were. "African nuclear-weapon-free zone", "territory", "nuclear explosive device", "stationing", "dumping", and "nuclear installations".

"The African nuclear- weapon-free zone" was defined as meaning the continent of Africa and the adjoining islands. Due recognition was given to the OAU Council of Ministers resolution CM/Res 676 (XXXI), which contains the OAU definition of Africa. However it was decided that the extent of the zone needed to be delimited precisely through the services of an experienced cartographer, and that the map rendition of the zone should be attached to the treaty as an annex.

"Territory" in the context of the African NWFZ was defined to mean internal waters, territorial sea and archipelagic waters, the seabed and subsoil beneath, the land territory and the airspace above them.

The experts defined "nuclear explosive device" as any nuclear weapon or other explosive device capable of releasing nuclear energy, irrespective of the purpose for which it could be used. The term includes such a weapon or device in unassembled and partly assembled forms, but does not include the means of transport or delivery of such a weapon or device if separable from and not an indivisible part of it.

"Stationing" was defined as meaning implantation, emplacement, transportation on land or inland waters, stockpiling, storage, installation and deployment.

"Dumping" was defined as disposing of, unloading or depositing. It was felt that in the African treaty the term should retain its normal usage rather than the more technical meaning it has in such instruments as the London Dumping Convention.

"Nuclear installation" was defined to include nuclear power and research reactors, fuel fabrication, uranium enrichment, isotopes separation and reprocessing facilities, as well as any other installations with fresh or irradiated nuclear fuel and materials in any form and establishments storing significant quantities of radioactive materials.

The experts were of the opinion that the obligation of renunciation of nuclear explosive devices should be explicit and should include research, development, manufacture, stockpiling, acquisition, possession and control of nuclear explosive devices. To that end a State party to the African NWFZ is expected to undertake (*a*) not to undertake research, develop, manufacture, stockpile or otherwise acquire, possess or have control over any nuclear explosive device by any means anywhere; (*b*) not to seek or receive any assistance in the research, development, manufacture, stockpiling or acquisition or possession of any nuclear explosive device; (*c*) not to take any action to assist or encourage the research, development, manufacture, stockpiling or acquisition or possession of any nuclear explosive device by any State; and (*d*) to prohibit, in its territory, the stationing of any nuclear explosive device.

It was also felt by the experts that there needed to be a specific prohibition of the testing of nuclear explosive devices in the treaty, and to that end they included an article whereby States parties undertake not to test any nuclear explosive device, to prohibit the testing of nuclear explosive devices in their territories, and not to assist or encourage the testing of any nuclear explosive device by any State anywhere.

Africa is a region where one of the States expected to become a party to the NWFZ, namely South Africa, not only has a nuclear weapon capability but has actually admitted to having developed six nuclear explosive devices. For this reason the experts believed there was a need for clear provisions pertaining to States with nuclear weapon capability and in possession of nuclear explosive devices already developed before the entry into force of the treaty. To that end they included in the treaty an article on the declaration, dismantling, destruction or conversion of nuclear explosive devices and the facilities for their manufacture. Through that article concerned parties would undertake: (*a*) to declare any capability for the manufacture of nuclear explosive devices; (*b*) to dismantle and destroy any nuclear explosive devices manufactured prior to the coming into force of the treaty; (*c*) to destroy facilities for the manufacture of nuclear explosive devices or, where possible, to convert to peaceful uses; and (*d*) to permit international inspectors to ascertain the processes of dismantling and destruction of the nuclear explosive devices as well as the destruction or conversion of the facilities for their production.

Through the Bamako Convention on the Ban of the Import into Africa and the Control of Transboundary Movement and Management of Hazardous Wastes within Africa, the region already has sufficient provisions for dealing with the problem of the dumping of radioactive waste. The only problem is that not all States party to the African NWFZ will also be parties to the Bamako Convention. To avoid any duplication, while at the same time ensuring that all African States abide by the same standard, it was decided to incorporate into the treaty provisions whereby each party undertakes to support effective implementation of and apply measures equivalent to those contained in the Bamako Convention insofar as that instrument is relevant to the issue of radioactive waste; and not to take any action to assist or

encourage the dumping of radioactive waste and other radioactive matter anywhere within the African NWFZ. Several African States are suppliers of nuclear fuel, and the question was raised concerning commercial agreements whereby a State has to take back spent fuel or waste products resulting from an initial export by it of the original fuel material. The general feeling was that where a State has adequately developed disposal and storage facilities for this purpose, an exception should be made. However, it was still considered that the issue needed further study.

It was clear to the experts that the developmental aspects of an instrument such as the one they were drafting were at least as important for the African States as the non-proliferation aspects. The promotional aspect of the treaty in terms of peaceful uses of nuclear energy therefore needed to be emphasized. The goals of non-proliferation should be achieved less through restrictions, embargoes or proscriptions, and more through transparency and removal of the anxiety that leads both to the attractiveness of the nuclear option for regional States and the imposition of restrictions and embargoes by supplier countries. Consequently, the experts stressed that nothing in the African NWFZ treaty should be interpreted as obstructing the access of parties to the use of nuclear technology for peaceful purposes.

The experts emphasized, however, that all activities for the peaceful use of nuclear energy should be conducted under strict non-proliferation measures in order to provide assurance of exclusively peaceful use. They recommended that comprehensive safeguards agreements should be entered into between the parties to the treaty and IAEA, but went on to note that it may be necessary to ensure transparency by operating regional facilities, especially for sensitive parts of the fuel cycle. The experts nevertheless emphasized that Africa should not bar itself from access to technology that can prove vital in the future and that non-proliferation require-

ments should be assured in a positive manner, through transparency, rather than negatively, through the renunciation of certain processes such as reprocessing and enrichment by African States. In this connection, in their draft they incorporated provisions whereby parties undertake to promote jointly and severally the use of nuclear energy for economic and social developmental purposes and, to that end, to establish and strengthen mechanisms for cooperation at the bilateral, subregional and regional levels, to make full use of the programme of assistance available in IAEA and thus to strengthen the 1990 African Regional Cooperative Agreement for Research, Development and Training related to Nuclear Science and Technology (AFRA).

To ensure that nuclear energy in Africa is used exclusively for peaceful purposes, the experts incorporated provisions in the draft dealing with the verification of peaceful uses. According to those provisions, each State party will undertake (*a*) that all activities for the peaceful use of nuclear energy shall be conducted under strict non-proliferation measures to provide assurance of exclusively peaceful uses; (*b*) to conclude comprehensive safeguards agreements with IAEA and (*c*) not to provide source or special fissionable material or equipment or material especially designed or prepared for the processing, use or production of special fissionable material for peaceful purposes to (i) any non-nuclear-weapon State unless subject to a comprehensive safeguards agreement concluded with IAEA; (ii) any nuclear-weapon State unless subject to applicable safeguards agreements concluded with IAEA.

On the issue of the physical protection of nuclear materials and facilities, the experts were of the view that in order to prevent theft or other unauthorized use or handling, States parties needed to undertake (*a*) to maintain the highest standards of security and effective physical protection of nuclear materials, facilities and equipment; and (*b*) to apply

measures of physical protection that provide protection equivalent to that provided for in the Convention on Physical Protection of Materials and International Transfer Guidelines on protection of materials developed by IAEA for that purpose. The experts also considered the possibility of armed attacks on nuclear installations and coalesced around the view that such attacks were not permissible in any circumstances. To this end they included in the draft a provision whereby parties to the treaty would undertake not to take, assist, or encourage any action aimed at an armed attack by conventional or other means against nuclear installations in the African NWFZ.

In connection with the question of compliance with treaty obligations, it was considered that any mechanism for this purpose should strike a balance between the prohibitive and the promotional aspects of the treaty. It was recommended that an African Commission on Nuclear Energy (AFCONE) should be established to have responsibility for collating information about the nuclear activities of States, bringing into effect the complaints procedure of the treaty in incidents of violation of treaty obligations, reviewing the application of IAEA safeguards to peaceful nuclear activities in the African NWFZ, requesting extraordinary inspections by IAEA, encouraging regional cooperation in the peaceful uses of nuclear energy, and promoting international cooperation with extra-zonal States to enhance capacity for the pacific applications of nuclear technology.

It was recommended that AFCONE be composed of twelve members elected by parties to the treaty, bearing in mind their expertise and interest in the subject-matter of the treaty, equitable geographical distribution, and the need to include members from countries with substantial nuclear programmes. A further recommendation was that members of the Commission should be elected for a three-year period, with a quorum being constituted by two thirds of the members,

and decisions being taken by a two thirds majority of those present and voting.

The experts also suggested a complaints procedure in the treaty whereby (*a*) a party which considers that there are grounds for a complaint that another party is in breach of its obligations under the treaty shall bring the subject-matter of the complaint to the attention of the party complained of and shall allow the latter reasonable opportunity to provide it with an explanation and resolve the matter; this could include technical visits agreed between the parties; (*b*) if the matter is not so resolved, the complainant party may bring the complaint to the Commission, which shall (i) give the party complained of reasonable opportunity to provide it with an explanation of the matter; and (ii) if it decides there is sufficient substance in the complaint to warrant an extraordinary inspection in the territory of that party or elsewhere, request IAEA to conduct such an inspection.

The Agency and regional inspectors shall report in writing as quickly as possible to AFCONE, outlining their activities and stating their conclusions. AFCONE shall report fully to all States parties to the treaty informing them whether, in its judgement, the party complained of is in breach of its obligations. If AFCONE decides that the party complained of is indeed in breach of its obligations or that the party did not cooperate fully with IAEA and regional inspectors, or at any time at the request of the accuser or the accused party, AFCONE shall meet promptly to discuss the matter. It may then decide how to enforce compliance either at its own level, at the level of the OAU, the General Assembly of the United Nations or the Security Council.

The experts also recommended a system of reporting and exchange of information among treaty parties whereby (*a*) each party shall submit an annual report to AFCONE on all its nuclear activities; (*b*) each party shall promptly report to the

Commission any significant event affecting the implementation of the treaty; and (*c*) the Commission shall receive an annual report from the Secretariat of AFRA on its (AFRA's) activities.

Considering the question of IAEA safeguards, the experts noted that it was a treaty requirement of the NPT that parties conclude safeguards agreements with the Agency within eighteen months of joining the Treaty. They proposed that parties to the African NWFZ treaty which do not have an NPT-type of agreement in force should also enter into a safeguards agreement with IAEA within eighteen months of the entry into force of the African NWFZ treaty or within eighteen months of the date of entry into force of the treaty for that party.[5] For purposes of IAEA safeguards, it was suggested that each party should transmit to the Commission, for its information; a copy of the overall conclusions of the most recent report by IAEA on its inspection activities in the territory of the party concerned, and advise the Commission promptly of any subsequent findings of IAEA in relation to those conclusions. It was also recommended that, for the purpose of ensuring confidentiality, the information furnished by the parties should not be disclosed or transmitted to third parties by the addressees of the reports unless express permission is given by the parties reporting.

The experts recommended that there be no reservation procedures allowed in the treaty. They were aware that States could always give their interpretation of various clauses in the treaty, but the deleterious effect of these would be less than that of reservations, were these to be expressly allowed by the treaty. The experts also recommended that the African NWFZ treaty should be of unlimited duration, but that each party shall, in exercising its sovereignty, have the right to withdraw from the treaty if it decides that extraordinary events related to the subject-matter of the treaty have jeopardized its supreme interests. Notice of withdrawal is to be made twelve

months in advance, and should include a statement of the extraordinary events the withdrawing party regards as having jeopardized its supreme interests. Such notice is to be given to the depositary of the treaty who, in turn, will circulate it to all other parties.

The African NWFZ treaty should be open for signature by all States in the area of the zone and shall be subject to ratification. It is recommended that it enter into force upon ratification by a simple majority of those States. For States ratifying the treaty after this date, it shall enter into force on the day of deposit of their instrument of ratification. It is also recommended that the depositary of the African NWFZ treaty be the Secretary-General of the OAU.

The experts also recommended that there be three protocols to the treaty. The first protocol, addressed to the nuclear-weapon States, would have those States undertake not to use or threaten to use under any circumstances nuclear explosive devices against parties to the treaty or the territory of the African NWFZ; not to contribute to any act of a party to the treaty which constitutes a violation of the treaty; or to any act of another party to a protocol which constitutes a violation of the protocol. The second protocol, also addressed to the nuclear-weapon States, would have those Powers undertake not to test or assist or encourage the testing of any nuclear explosive device anywhere within the African NWFZ. The third protocol, addressed to States outside the African NWFZ that are internationally responsible for territories situated within the zone, would have those States undertake to apply in respect of such territories the obligations contained in the African NWFZ treaty as they relate to the prohibition of research, development, manufacture, stockpiling, stationing and testing of nuclear explosive devices as well as to the dumping of radioactive waste, ensuring physical protection against and prohibition of armed attacks on nuclear installa-

tions within those territories, and the application of safeguards.

All three protocols shall be of unlimited duration, though they acknowledge the right to withdraw in the event that a State decides that extraordinary events, related to the subject-matter of the protocol, have jeopardized its supreme interests. In that event the States intending to withdraw shall give twelve months' notice to the depositary, accompanied by a statement of the extraordinary events cited as having jeopardized the States' supreme interests.

The above is an outline of some of the efforts that have been going on to implement the 1964 Declaration on the Denuclearization of Africa. As already stated, these efforts are not yet complete. The experts themselves have not yet concluded their work, especially as regards the preamble to the treaty, the return of spent fuel products to the country of origin and a clear delimitation of the area of the zone. And when the experts complete their efforts, the draft treaty has still to gain the official stamp of approval of Africa's leaders. However, the fact that it is being prepared by African experts mandated by the OAU, with technical assistance from the United Nations and in pursuance of an objective routinely endorsed by all African States, augurs well for the successful conclusion of these efforts. When such success comes, Africa will have once again notched up a victory for global non-proliferation efforts.

Notes

1 United Nations General Assembly resolution 1652 (XVI) of 26 November 1961.

2 OAU resolution AHG/Res II (1) of 1964 entitled Declaration on the Denuclearization of Africa.

3 United Nations General Assembly resolution 45/56 A of 4 December 1990. The resolution was followed by resolu-

tion 46/34 B of 9 December 1991 and resolution 47/76 of 15 December 1992.

4 OAU Council of Ministers, document CM (3) of 1964.

5 As of February 1993, of the 46 African States parties to the NPT, 28 had not yet concluded a safeguards agreement with IAEA as required by article III of that Treaty, and of those 28 States, 9 (Botswana, Burkina Faso, Burundi, Chad, Kenya, Liberia, Mali, Somalia and Togo) were more than twenty years overdue. It is to be noted that conclusion of safeguards agreements with IAEA is a treaty obligation, and therefore necessary regardless of whether the State in question has any nuclear energy activities that need "safeguarding".

Denuclearization in Africa: The South African Dimension

Jeremy Shearar

In accordance with United Nations General Assembly resolution 47/76 of 15 December 1992, the Group of Experts designated by the United Nations in cooperation with the Organization of African Unity gathered in Harare on 5 April 1993 "in order to draw up a draft treaty or convention on the denuclearization of Africa".

In itself this fact was significant, as calls for Africa to become a nuclear-weapon-free zone had been made since France carried out tests of nuclear explosive devices in Algeria in 1960. It had taken over thirty years for this stage, which marked the third annual meeting of the Group of Experts, to be reached.

The meeting was even more significant for it was attended, at the invitation of the United Nations, by an expert observer nominated by the Government of the Republic of South Africa. Although the presence of South Africa and its participation in the drafting of such a document was recognized by almost all members of the OAU as essential to its success, they had not until then been willing to include a

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South African representative in their deliberations. In fact, South Africa had, for reasons that the other African States regarded as valid, been totally excluded from any discussions or negotiations on this issue until its accession to the Nuclear Non–Proliferation Treaty on 10 July 1991 and signature of the appropriate safeguards agreement with IAEA only six weeks later.

Even then, the decision to invite a governmental expert was not taken without considerable effort and negotiation. The invitation was issued in New York on 30 March 1993, less than a week after State President F. W. de Klerk had informed the South African Parliament of the existence of a limited nuclear deterrent programme, which had been terminated prior to the completion of the safeguards agreement with IAEA. It was formally accepted in Harare on 2 April 1993, when all the members of the Group were attending a workshop of the Programme for Promoting Nuclear Non-Proliferation (PPNN).

There is no doubt that the informal discussions at the workshop facilitated the work of the Group of Experts by removing many preconceptions and misconceptions they might have had.

South Africa, as is clearly recognized, has been the most advanced State of the African continent in the field of nuclear research for more than three decades. As early as 1948, Parliament passed the Atomic Energy Act establishing an Atomic Energy Board, part of whose functions was "to undertake the production of atomic energy", and laying down conditions for "prospecting and mining for prescribed materials", mainly uranium and thorium.

The nuclear research programme resulted in the construction of the 20 MW SAFARI-I (South African Fundamental Atomic Research Installation) research reactor at Pelindaba, west of Pretoria, which went critical on 18 March 1965, marking

the achievement of the first self-sustaining nuclear chain reaction in sub-Saharan Africa. The development of the research reactor had been made possible in cooperation with other States engaged in nuclear research, notably the United States, with which South Africa had entered into a bilateral agreement on the civil uses of atomic energy in July 1957. The SAFARI reactor has therefore been placed under IAEA safeguards since its commissioning under a trilateral agreement between South Africa, the United States and IAEA.

South Africa, as an important producer of uranium that also possessed abundant supplies of fossil fuel, was well placed to pursue investigation into the possibilities of enriching its own uranium supplies. Apart from the importance of ensuring continuity of provision for the research reactor and the future functioning of nuclear-power stations, the possibility of selling enriched uranium in the international market, under appropriate safeguards, was a strong inducement to undertake such research. When an indigenous uranium-isotope separation technology called the stationary walled centrifuge was developed, it was even thought possible that international partners would be available to ensure that the process became commercially viable.

On 20 July 1970, the Prime Minister was able to inform Parliament:

> "Scientists of the Atomic Energy Board succeeded in developing a new process for uranium enrichment, as well as the extensive associated technology, and they are presently engaged on the building of a pilot plant for the enrichment of uranium based on this process. The South African process, which is unique in its concept, is presently developed to the stage where it is estimated that under South African conditions, a large scale plant can be competitive with existing plants in the West."

Emphasizing that South Africa's nuclear research and development programme was directed towards peaceful purposes and that South Africa was prepared to collaborate in the exploitation of the process "with any non-communist countries desiring to do so", Prime Minister Vorster added:

> "I also wish to state emphatically that South Africa is prepared to subject its nuclear activities to a safeguards system including inspections, subject to the conditions that:
>
> a South Africa will in no way be limited in the promotion of the peaceful application of nuclear energy;
>
> b South Africa will not run the risk of details of the new process leaking out as a result of the safeguards inspection system; and
>
> c The safeguards system, while efficient, is to be implemented on such a reasonable basis as to avoid interference with the normal efficient operation of the particular industries".

The Government's hopes for international collaboration, which would have obviated any thought of developing a nuclear deterrent, were destined for political reasons to fail. During the 1970s certain nuclear-weapon States tended to deny access to "sensitive" technology and materials to "politically unacceptable" States, a category into which the United States in particular increasingly placed South Africa. As a result, export permits under a standing South Africa/United States contract for fuel elements of highly enriched uranium for SAFARI-I were refused by the United States Administration in 1976, while Congress enacted non-proliferation legislation in 1977 precluding the transfer of nuclear technology to States not party to the NPT. In this political climate the search for partners or, indeed, purchasers of enriched uranium proved abortive.

During that decade, the security situation with which South Africa was confronted, particularly in the aftermath of Portugal's withdrawal from Mozambique and Angola, coupled with concern about the designs of the Warsaw Pact countries on the region, contributed to a strong sense of isolation and the conviction that in the event of a direct threat to its territorial integrity, the Government would not, without compelling reason, be able to rely on the international community for assistance. In the circumstances the argument that the country had no alternative to developing its own deterrent became ever more persuasive.

An investigation of the available options convinced the Prime Minister that the most cost-effective would be the development of a limited nuclear deterrent capability. A decision was taken to this effect.

It was obvious from the outset to the architects of the strategy that South Africa would not actually deploy the devices offensively on the sub-continent. Nevertheless, as its isolation increased, it was essential that, if the threat of outside attack assumed realistic proportions, it would have to be able to demonstrate an ability not only to defend itself but to inflict serious damage on its aggressors. In this way the policy makers hoped to be able to persuade the international community, by way of obvious example the United States, to intervene to defuse the situation. As long as there was no overt threat, South Africa would neither confirm nor deny the existence of a nuclear deterrent capability.

In retrospect one may argue that the policy was naive and that the moment it did declare its capability South Africa would have been more likely to bring upon itself the joint wrath of the United States and the Soviet Union to say nothing of the United Nations Security Council. This view is reinforced by the fact that the two test shafts drilled in the Kalahari desert between 1974 and 1977, with the aim of

demonstrating the capability, were officially abandoned in 1977 as a result of pressure from the two super-Powers. Thus the site was never used, being closed before the first device had been completed or the pilot plant had produced its enriched uranium. The shafts are currently being rendered inoperable under IAEA supervision.

Nonetheless, many who might argue this way now in respect of the South African strategy would no doubt quote with approval, when their own security was at stake, the fourth century AD dictum of Vegetius: "Qui desiderat pacem, paret bellum".

It was a long process. From the decision in 1974, nearly six years were to elapse before the first device was produced. In that time South African participation in the United Nations General Assembly and the specialized agencies was suspended. South Africa was subjected to a mandatory weapons and a voluntary oil embargo by the United Nations Security Council. For purely political reasons it was denied its designated seat on the IAEA Board of Governors as the most advanced State in the nuclear field in Africa and subsequently participation in the General Conference. There was a notable buildup of Cuban forces in Angola with the help of the Soviet Union and the German Democratic Republic, while, with the looming independence of Zimbabwe, South Africa's borders would become increasingly vulnerable.

The bilateral agreement with the United States was treated on the advent of the Carter Administration in 1977 as a dead letter, and while pressures were continually exerted on it, South Africa could at that stage still discern o particular advantages in acceding to the NPT. Like some other nations, it noted that the nuclear-weapon States did not appear anxious to fulfil all their obligations in terms of article IV, viz. the "inalienable right of all the Parties to the Treaty to develop research, production and use of nuclear energy for peaceful

purposes without discrimination" and "the right to participate in, the fullest possible exchange of equipment, materials and scientific and technological information" and article VI relating to the active pursuit of nuclear disarmament.

What this means is that there were no developments in the political and security fields between the policy decision and its initial implementation to dissuade the Government from its chosen strategy. Neither did the position improve during the major part of the 1980s, when a limited stockpile of six nuclear fission devices was completed. A seventh was planned but abandoned when the programme was terminated in 1989.

Much information on the programme has already been made public but some of it will bear repeating:

a The devices were of the gun-type to be fuelled with enriched uranium: their components were stored separately in steel vaults and they were never stockpiled in assembled form;

b The total cost of the programme was less than 0.5 per cent of the defence budget at the time and amounted to a total of between 700 and 800 million Rand over the ten-year life of the programme;

c South Africa did not at any time conduct a nuclear test: allegations that it had done so in the South Atlantic were incorrect, neither was any nuclear fall-out measured in the area at the time;

d The programme was conducted by South Africa alone. It received no cooperation from any other country. Even those involved in it were required to be South Africans by birth.

By September 1989 much had changed both in South Africa and abroad. It is not necessary to go into detail as the events chronicling the improvement in South Africa's security situation have been well documented. Suffice it to say that the newly-elected State President F.W. de Klerk was able to

consider the introduction of far-reaching changes inside South Africa. They included a decision to terminate the nuclear deterrent programme, to decommission the pilot enrichment plant, to dismantle and destroy the nuclear devices, in other words to destroy South Africa's entire nuclear deterrent capability.

This decision opened up the prospect of accession at long last to the NPT; of resumption of full participation in the activities of IAEA; of closer collaboration with other African countries in the development of nuclear technology; of unconditional support for the principle of declaring Africa a nuclear-weapon-free zone and of joining the global efforts towards the prevention of the proliferation of all weapons of mass destruction.

All of this, it may be noted, was possible without declaring the existence of a nuclear weapons programme, since South Africa was able to accede to the NPT, complete its negotiations for the safeguards agreement in a record period of seven weeks and supply to the IAEA verification team an inventory so detailed that the Director-General was able to report to the Board of Governors in September 1992 that, after a large number of inspections "nothing had been found to suggest that South Africa's inventory of nuclear materials was not complete, nor was there anything to suggest that the list of facilities and materials submitted for controls was incomplete".

There is nothing surprising in this, for the inventory presented to the verification team was complete. None of the additional facilities which have more recently been visited on the invitation of the South African Government pursuant to the State President's declaration to Parliament on 24 March 1993 was, at the time of signature of the safeguards agreement, a nuclear facility or even equipped for nuclear work. As he said in his statement: "I wish today to confirm

unequivocally that South Africa is adhering strictly to the requirements of the NPT and that it will continue to do so."

It follows from what has been said that South Africa has its own reservoir of highly enriched uranium. It recognizes that, although the possession of this substance is compatible with the provisions of the NPT, some observers may still harbour concerns. It is accordingly necessary to remind them that this highly enriched uranium is stored under strict IAEA safeguards. South Africa is a producer of medical isotopes. To do so entails using highly enriched uranium particularly with a view to their commercial exploitation. It will ensure that this reserve is exploited only under the strict application of IAEA safeguards. International concerns should, in the light of these practical steps, be dissipated.

Accession brought other advantages, as it enabled South Africa to participate in the spectrum of international disarmament activities. It joined the Conference on Disarmament as an observer and became an original signatory to the Convention on the Prohibition of the Development, Production, Stockpiling and Use of Chemical Weapons, and on Their Destruction. After a long absence it is making a positive input into the preparatory discussions for the review of the Convention on the Prohibition of the Development, Production and Stockpiling of Bacteriological (Biological) and Toxin Weapons and on Their Destruction, and has announced its intention to abide by the rules of the Missile Technology Control Regime, which also includes export restrictions related to dual-use technologies.

All these developments have been synthesized into the promulgation of a draft bill on the non-proliferation of weapons of mass destruction, which has been laid before Parliament, for adoption during the current session. The new law will make it illegal for any South African to assist in any programme related to the construction of such weapons.

In the nuclear field South Africa has expressed its interest in membership of the Nuclear Suppliers' Group and the Zangger Committee and has just received an invitation to join the latter. Of regional significance, it became a member of AFRA, the African Regional Cooperative Agreement, an organization within IAEA which coordinates peaceful nuclear projects and cooperation between African States. At the most recent meeting of AFRA, South Africa proposed and indicated that it would support two peaceful nuclear projects in Africa. It has also been designated as the host country for the 1995 AFRA annual meeting. It will, in addition, assist in training within the framework of AFRA projects as well as the IAEA Fellowship Training Programme.

An essential dimension of the decision to abandon the nuclear deterrent programme lay in the fact that it enabled South Africa to speak more forcefully in favour of proposals for the denuclearization of Africa. The policy of neither confirming nor denying a deterrent capability can be argued to have proved successful. So long as it was deployed the threat of large-scale attack never materialized, and in the end the devices were destroyed without ever having been tested. Thus, the country's commitment to the principle of non-proliferation remained unchallenged.

At the same time, suspicions grew that the capability existed. Ambassador Bariyu Adeyemi's comments describe such suspicions:

> "... some fairly credible evidence has emerged that South Africa ... might well have acquired a nuclear capability in a grand design to silence opposition at home and to intimidate neighbouring sovereign African States through nuclear threats and blackmail."[1]

As is now clear, the author like most other critics mistook the basis of the design, but the constant reference to a

"clandestine nuclear programme" served as deterrent enough and absolved South Africa of the need to do more than remain silent.

The reverse side of the coin was that the suspicions provided a shield for those States in Africa which were not enthusiastic about denuclearization. Far from being drawn into negotiations, South Africa was systematically excluded from every forum in which it could make its views on denuclearization known with any sort of credibility. Whatever forms of persuasion were considered, positive encouragement to join the discussions was not one. As it happens, the most effective way of dealing with the problem would have been to proceed with drafting a treaty and establishing the necessary regional mechanisms for mutual security. Evidence of Africa's willingness to disarm would have impacted positively on South Africa, as was demonstrated by its reaction to the improving security situation in 1989 and 1990.

But the Africans themselves must surely have appreciated that in the circumstances obtaining at the time, South Africa would never have been in a position actually to make use of the nuclear devices they suspected it (correctly) of having. Consequently it must be assumed that simply voicing those suspicions and passing resolutions with which South Africa, having been dealt with in absentia, would not comply, was regarded as sufficient excuse to postpone implementation of the proposals adopted both by the General Assembly and the OAU. The fragility of peace in the Middle East and the existence of super-Power rivalry in Africa may well have served as the inhibiting factor, for it is really only in the aftermath of the cold war that more than lip service has been paid to denuclearization proposals.

While the objective observer will acknowledge the distance South Africa has travelled in less than four years, the question is still asked as to the timing of the State President's

announcement. Serious consideration was given to doing so when South Africa acceded to the NPT, but it was felt that neither the internal situation where constitutional negotiations were at an embryonic stage, nor the external where the situation in Iraq was colouring international thinking, was propitious.

The reaction by African States to its accession to the NPT, however, the desire of several of them to expand cooperation in nuclear technology, and their recognition that the essential element for the establishment of a nuclear-weapon-free zone in Africa was South Africa's acquiescence—all this persuaded the Government that negotiations could not be fully developed, as long as any uncertainty remained. Without full transparency, the vestiges of mistrust would remain.

The Harare meeting provided further evidence of the accuracy of this analysis. South Africa was able to bring to it a demonstrable and demonstrated commitment to the NPT and to an African NWFZ. It had shown that a country that had developed a nuclear capability could renounce it in the interests of regional and global security, particularly when it accepted that its own safety was no longer in doubt.

It has been strengthened in this view by the identity of interests that was apparent at the meeting of the Group of Experts despite the long years of hostility. The meeting demonstrated the importance of talking frankly and avoiding trying to second-guess the strategy of a partner or an adversary. A successful conclusion to this process will achieve many goals. It will bring a nuclear-weapon-free southern hemisphere closer to realization, not only advancing a goal of the countries involved but also serving to protect and preserve the ecosystem of Antarctica.

It will do more. It will demonstrate that sovereign States can transcend their suspicion of one another in the

interest of joint security. If this can lead to the diversion of funds in the budgets especially of developing nations, from military expenditure to socio-economic improvement programmes, it will have taken an important step in helping the countries of Africa to rescue themselves from the global marginalization with which they are threatened.

Because so many disparate interests will be gathered into the ambit of the treaty, a precedent, exceeding those of Tlatelolco and Rarotonga, will have been created that can serve as a beacon to other regions where the maintenance of peace and security has been regularly threatened. South Africa hopes that its presence will encourage the participation of other States, particularly in North Africa, which may be hesitant on the grounds that their concerns on this continent are affected by those of their neighbours in the Middle East. The benevolent interest of the nuclear Powers in the successful operation of the treaty can help to convince these States that their safety will be guaranteed.

South Africa's participation in the draft treaty also takes it into realms beyond its two predecessors for it means the inclusion of a State which has reached the stage of developing explosive devices. Furthermore, the extent of South Africa's research into the uses of nuclear technology, notably in the production of radio and medical isotopes and the irradiation of perishable food and other substances to mention only a few, as well as its experience in the construction of a nuclear power station, has enabled the drafters to stress the right of African States to the development of nuclear energy and technology for peaceful purposes. The attainment of this objective is now closer and more realistic that it was before South Africa took part.

Similarly the approach to the disposal of nuclear waste can be developed on a more pragmatic basis. While the opposition to "dumping" remains as strong as ever and the

principles of the Bamako Declaration on Hazardous Waste will continue to provide guidelines, the sovereignty of States to consult their own interests in a rational and environmentally acceptable manner strengthens the emphasis on the inalienable right of Africans to participate in technological research and so reduce their dependence on third parties. It is of particular importance to countries which have significant reserves of uranium.

South Africa too is an important producer of uranium. Consequently it appreciates the concerns that have been expressed regarding the reporting of stockpiles and production of uranium and has indicated its willingness in principle to consider participation in the proposed universal reporting system currently under discussion in IAEA. Full participation would have to be preceded by enabling legislation, after in-depth consultations with local interests; it would be facilitated by a coordinated approach from all African producers.

South Africa sees the draft treaty as complementary to and strengthening the NPT. After so long a period of hesitation, it would have served little purpose to accede to an international instrument with a limited life span. Hence, it recognizes the need for the NPT's extension, preferably on an indeterminate basis. Nevertheless its approach to article X, paragraph 2, will be decided in the light of its participation in the treaty for the establishment of a NWFZ in Africa and the views of those countries with which it has participated in drafting that treaty. It will therefore pay close attention to the commitment of State parties to the NPT to their obligations under articles IV and VI.

Although a combined Africa vote would weigh heavily in decisions taken at the Review Conference, in principle South Africa would welcome a consensus approach to the decision-making process. Much has changed in the

quarter-century since the NPT was drafted and the importance of the issue emphasizes the need for the highest level of agreement. Imposing decisions by simple majority is, in its view, an unsatisfactory alternative which limits the credibility of the NPT as an effective instrument of disarmament.

In the final analysis, security will best be served by international collaboration and transparency. South Africa believes that it has set a valuable example in the latter field. It welcomes the cooperation extended by its fellow Africans in response to the steps it has taken and looks forward to frank and cordial relations with them in the years to come.

Note

1 See Bariyu A. Adeyemi, "Prospects for a nuclear-weapon-free zone in Africa" in *Disarmament: A Periodic Review by the United Nations*, vol. XXIV, No. 3 (1991).

Documentation Relating to Disarmament

Text of the Treaty on the Non-Proliferation of Nuclear Weapons*

The States concluding this Treaty, hereinafter referred to as the "Parties to the Treaty",

Considering the devastation that would be visited upon all mankind by a nuclear war and the consequent need to make every effort to avert the danger of such a war and to take measures to safeguard the security of peoples,

Believing that the proliferation of nuclear weapons would seriously enhance the danger of nuclear war,

In conformity with resolutions of the United Nations General Assembly calling for the conclusion of an agreement on the prevention of wider dissemination of nuclear weapons,

Undertaking to co-operate in facilitating the application of International Atomic Energy Agency safeguards on peaceful nuclear activities,

Expressing their support for research, development and other efforts to further the application, within the framework of the International Atomic Energy Agency safeguards system, of the principle of safeguarding effectively the flow of source and special fissionable materials by use of instruments and other techniques at certain strategic points,

Affirming the principle that the benefits of peaceful applications of nuclear technology, including any technological by-products which may be derived by nuclear-weapon States from the development of nuclear explosive devices, should be available for

*The Treaty was opened for signature at London, Moscow and Washington on 1 July 1968 and entered into force on 5 March 1970. The text of the Treaty was first published by the United Nations as an annex to General Assembly resolution 2373 (XXII) of 12 June 1968.

peaceful purposes to all Parties to the Treaty, whether nuclear-weapon or non-nuclear-weapon States,

Convinced that, in furtherance of this principle, all Parties to the Treaty are entitled to participate in the fullest possible exchange of scientific information for, and to contribute alone or in co-operation with other States to, the further development of the applications of atomic energy for peaceful purposes,

Declaring their intention to achieve at the earliest possible date the cessation of the nuclear arms race and to undertake effective measures in the direction of nuclear disarmament,

Urging the co-operation of all States in the attainment of this objective,

Recalling the determination expressed by the Parties to the 1963 Treaty banning nuclear weapons tests in the atmosphere, in outer space and under water in its Preamble to seek to achieve the discontinuance of all test explosions of nuclear weapons for all time and to continue negotiations to this end,

Desiring to further the easing of international tension and the strengthening of trust between States in order to facilitate the cessation of the manufacture of nuclear weapons, the liquidation of all their existing stockpiles, and the elimination from national arsenals of nuclear weapons and the means of their delivery pursuant to a Treaty on general and complete disarmament under strict and effective international control,

Recalling that, in accordance with the Charter of the United Nations, States must refrain in their international relations from the threat or use of force against the territorial integrity or political independence of any State, or in any other manner inconsistent with the Purposes of the United Nations, and that the establishment and maintenance of international peace and security are to be promoted with the least diversion for armaments of the world's human and economic resources,

Have agreed as follows:

Article I

Each nuclear-weapon State Party to the Treaty undertakes not to transfer to any recipient whatsoever nuclear weapons or other nuclear explosive devices or control over such weapons or explosive devices directly, or indirectly; and not in any way to assist, encourage, or induce any non-nuclear-weapon State to

manufacture or otherwise acquire nuclear weapons or other nuclear explosive devices, or control over such weapons or explosive devices.

Article II

Each non-nuclear-weapon State Party to the Treaty undertakes not to receive the transfer from any transferor whatsoever of nuclear weapons or other nuclear explosive devices or of control over such weapons or explosive devices directly, or indirectly; not to manufacture or otherwise acquire nuclear weapons or other nuclear explosive devices; and not to seek or receive any assistance in the manufacture of nuclear weapons or other nuclear explosive devices.

Article III

1 Each non-nuclear-weapon State Party to the Treaty undertakes to accept safeguards, as set forth in an agreement to be negotiated and concluded with the International Atomic Energy Agency in accordance with the Statute of the International Atomic Energy Agency and the Agency's safeguards system, for the exclusive purpose of verification of the fulfilment of its obligations assumed under this Treaty with a view to preventing diversion of nuclear energy from peaceful uses to nuclear weapons or other nuclear explosive devices. Procedures for the safeguards required by this Article shall be followed with respect to source or special fissionable material whether it is being produced, processed or used in any principal nuclear facility or is outside any such facility. The safeguards required by this Article shall be applied on all source or special fissionable material in all peaceful nuclear activities within the territory of such State, under its jurisdiction, or carried out under its control anywhere.

2 Each State Party to the Treaty undertakes not to provide: (*a*) source or special fissionable material, or (*b*) equipment or material especially designed or prepared for the processing, use or production of special fissionable material, to any non-nuclear-weapon State for peaceful purposes, unless the source or special fissionable material shall be subject to the safeguards required by this Article.

3 The safeguards required by this Article shall be implemented in a manner designed to comply with Article IV of this Treaty, and to avoid hampering the economic or technological

development of the Parties or international co-operation in the field of peaceful nuclear activities, including the international exchange of nuclear material and equipment for the processing, use or production of nuclear material for peaceful purposes in accordance with the provisions of this Article and the principle of safeguarding set forth in the Preamble of the Treaty.

4 Non-nuclear-weapon States Party to the Treaty shall conclude agreements with the International Atomic Energy Agency to meet the requirements of this Article either individually or together with other States in accordance with the Statute of the International Atomic Energy Agency. Negotiation of such agreements shall commence within 180 days from the original entry into force of this Treaty. For States depositing their instruments of ratification or accession after the 180-day period, negotiation of such agreements shall commence not later than the date of such deposit. Such agreements shall enter into force not later than eighteen months after the date of initiation of negotiations.

Article IV

1 Nothing in this Treaty shall be interpreted as affecting the inalienable right of all the Parties to the Treaty to develop research, production and use of nuclear energy for peaceful purposes without discrimination and in conformity with Articles I and II of this Treaty.

2 All the Parties to the Treaty undertake to facilitate, and have the right to participate in, the fullest possible exchange of equipment, materials and scientific and technological information for the peaceful uses of nuclear energy. Parties to the Treaty in a position to do so shall also co-operate in contributing alone or together with other States or international organizations to the further development of the applications of nuclear energy for peaceful purposes, especially in the territories of non-nuclear-weapon States Party to the Treaty, with due consideration for the needs of the developing areas of the world.

Article V

Each Party to the Treaty undertakes to take appropriate measures to ensure that, in accordance with this Treaty, under appropriate international observation and through appropriate international procedures, potential benefits from any peaceful

applications of nuclear explosions will be made available to non-nuclear-weapon States Party to the Treaty on a non-discriminatory basis and that the charge to such Parties for the explosive devices used will be as low as possible and exclude any charge for research and development. Non-nuclear-weapon States Party to the Treaty shall be able to obtain such benefits, pursuant to a special international agreement or agreements, through an appropriate international body with adequate representation of non-nuclear-weapon States. Negotiations on this subject shall commence as soon as possible after the Treaty enters into force. Non-nuclear-weapon States Party to the Treaty so desiring may also obtain such benefits pursuant to bilateral agreements.

Article VI

Each of the Parties to the Treaty undertakes to pursue negotiations in good faith on effective measures relating to cessation of the nuclear arms race at an early date and to nuclear disarmament, and on a treaty on general and complete disarmament under strict and effective international control.

Article VII

Nothing in this Treaty affects the right of any group of States to conclude regional treaties in order to assure the total absence of nuclear weapons in their respective territories.

Article VIII

1 Any Party to the Treaty may propose amendments to this Treaty. The text of any proposed amendment shall be submitted to the Depositary Governments which shall circulate it to all Parties to the Treaty. Thereupon, if requested to do so by one-third or more of the Parties to the Treaty, the Depositary Governments shall convene a conference, to which they shall invite all the Parties to the Treaty, to consider such an amendment.

2 Any amendment to this Treaty must be approved by a majority of the votes of all the Parties to the Treaty, including the votes of all nuclear-weapon States Party to the Treaty and all other Parties which, on the date the amendment is circulated, are members of the Board of Governors of the International Atomic Energy Agency. The amendment shall enter into force for each Party that deposits its instrument of ratification of the amendment upon the deposit of such instruments of ratification by a majority of all the Parties, including the instruments of ratification of all

nuclear-weapon States Party to the Treaty and all other Parties which, on the date the amendment is circulated, are members of the Board of Governors of the International Atomic Energy Agency. Thereafter, it shall enter into force for any other Party upon the deposit of its instrument of ratification of the amendment.

3 Five years after the entry into force of this Treaty, a conference of Parties to the Treaty shall be held in Geneva, Switzerland, in order to review the operation of this Treaty with a view to assuring that the purposes of the Preamble and the provisions of the Treaty are being realised. At intervals of five years thereafter, a majority of the Parties to the Treaty may obtain, by submitting a proposal to this effect to the Depositary Governments, the convening of further conferences with the same objective of reviewing the operation of the Treaty.

Article IX

1 This Treaty shall be open to all States for signature. Any State which does not sign the Treaty before its entry into force in accordance with paragraph 3 of this Article may accede to it at any time.

2 This Treaty shall be subject to ratification by signatory States. Instruments of ratification and instruments of accession shall be deposited with the Governments of the United Kingdom of Great Britain and Northern Ireland, the Union of Soviet Socialist Republics and the United States of America, which are hereby designated the Depositary Governments.

3 This Treaty shall enter into force after its ratification by the States, the Governments of which are designated Depositaries of the Treaty, and forty other States signatory to this Treaty and the deposit of their instruments of ratification. For the purposes of this Treaty, a nuclear-weapon State is one which has manufactured and exploded a nuclear weapon or other nuclear explosive device prior to 1 January 1967.

4 For States whose instruments of ratification or accession are deposited subsequent to the entry into force of this Treaty, it shall enter into force on the date of the deposit of their instruments of ratification or accession.

5 The Depositary Governments shall promptly inform all signatory and acceding States of the date of each signature, the date of deposit of each instrument of ratification or of accession, the date of the entry into force of this Treaty, and the date of receipt of any requests for convening a conference or other notices.

6 This Treaty shall be registered by the Depositary Governments pursuant to Article 102 of the Charter of the United Nations.

Article X

1 Each Party shall in exercising its national sovereignty have the right to withdraw from the Treaty if it decides that extraordinary events, related to the subject matter of this Treaty, have jeopardized the supreme interests of its country. It shall give notice of such withdrawal to all other Parties to the Treaty and to the United Nations Security Council three months in advance. Such notice shall include a statement of the extraordinary events it regards as having jeopardized its supreme interests.

2 Twenty-five years after the entry into force of the Treaty, a conference shall be convened to decide whether the Treaty shall continue in force indefinitely, or shall be extended for an additional fixed period or periods. This decision shall be taken by a majority of the Parties to the Treaty.

Article XI

This Treaty, the English, Russian, French, Spanish and Chinese texts of which are equally authentic, shall be deposited in the archives of the Depositary Governments. Duly certified copies of this Treaty shall be transmitted by the Depositary Governments to the Governments of the signatory and acceding States.

In witness whereof the undersigned, duly authorized, have signed this Treaty.

Done in triplicate, at the cities of London, Moscow and Washington, the first day of July, one thousand nine hundred and sixty-eight.

Related Documentation on a Comprehensive Test Ban

Excerpts from a Radio Address by the President of the United States*

Washington, DC, 2 July 1993*

...

...

During my campaign for President, I promised a wholehearted commitment to achieving a comprehensive nuclear test ban treaty. A test ban can strengthen our efforts worldwide to halt the spread of nuclear technology in weapons. Last year, the Congress directed that a test ban be negotiated by 1996. And it established an interim moratorium on nuclear testing while we reviewed our requirements for further tests. That moratorium on testing expires soon.

Congress said that after the moratorium expires, but before a test ban was achieved, the United States could carry out up to 15 nuclear tests to ensure the safety and reliability of our weapons. After a thorough review, my administration has determined that the nuclear weapons in the United States arsenal are safe and reliable.

Additional nuclear tests could help us prepare for a test ban and provide for some additional improvements in safety and reliability. However, the price we would pay in conducting those tests now by undercutting our own nonproliferation goals and ensuring that other nations would resume testing outweighs these benefits.

I have, therefore, decided to extend the current moratorium on United States nuclear testing at least through September of next year, as long as no other nation tests.

*CD/1205.

And I call on the other nuclear powers to do the same. If these nations will join us in observing this moratorium, we will be in the strongest possible position to negotiate a comprehensive test ban and to discourage other nations from developing their own nuclear arsenals.

If, however, this moratorium is broken by another nation, I will direct the Department of Energy to prepare to conduct additional tests while seeking approval to do so from Congress. I therefore expect the Department to maintain a capability to resume testing.

To assure that our nuclear deterrent remains unquestioned under a test ban, we will explore other means of maintaining our confidence in the safety, the reliability and the performance of our own weapons. We will also refocus much of the talent and resources of our nation's nuclear labs on new technologies to curb the spread of nuclear weapons and verify arms control treaties.

Beyond these significant actions, I am also taking steps to revitalize the Arms Control and Disarmament Agency, so that it can play an active role in meeting the arms control and nonproliferation challenges of this new era. I am committed to protecting our people, deterring aggression and combatting terrorism. The work of combatting proliferation of weapons of mass destruction is difficult and unending, but it is an essential part of this task. It must be done...

Editor's note: Following the above announcement, the ongoing moratoria of the nuclear-weapon States were strengthened by statements indicating intentions to extend them.

Excerpts from a letter of United States Secretary of State Warren Christopher to Foreign Minister Ali Alatas of the Republic of Indonesia

New York, 9 August 1993*

1 President Clinton's recent decisions to actively pursue negotiations on a comprehensive test ban treaty (CTBT) and to extend the US nuclear testing moratorium reflect his deep concerns about emerging new threats to security stemming from proliferation of nuclear weapons. The President's decisions will reinforce progress towards our mutual non-proliferation objectives, including rapid conclusion of a CTBT and the indefinite, unconditional extension of the nuclear Non-Proliferation Treaty in 1995. If the other nuclear powers continue the de facto moratorium, as President Clinton called on them to do, we will be in the strongest possible position to negotiate a CTBT.

2 We all want to achieve a CTBT as rapidly as possible. The US does not believe that the LTBT would be the most effective forum to accomplish this goal, both because of membership and procedural constraints, and the risk of opening the LTBT for other amendments. We look favorably on the Geneva Conference on Disarmament (CD) as the multilateral negotiating body. The CD offers a number of advantages. Global support for a CTBT would be more difficult to secure if the CD—the recognized multilateral arms control negotiating body—were excluded. Geneva offers an infrastructure which can accommodate sustained negotiations and the CD has already established expertise on critical issues such as CTBT monitoring and implementation arrangements.

3 At some point down the road there may be other helpful steps LTBT parties could take to move the international community to join a CTBT. At the present time, however, neither the US nor others with whom we have spoken believe an LTBT Amendment Conference is the most expeditious path.

*As provided to the United Nations by the Mission of Indonesia following discussion with Foreign Minister Alatas.

Concluding Statement by the President of the Amendment Conference of the States Parties to the Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and under Water *

New York, 10 August 1993

1 Pursuant to General Assembly resolution 47/46, a Special Meeting of the States Parties to the 1963 Treaty Banning Nuclear Weapon Tests in the Atmosphere, in Outer Space and under Water was held on 10 August 1993. There was a general exchange of views on the developments regarding the issue of nuclear testing and the parties considered the feasibility of resuming the work of the Amendment Conference.

2 The Special Meeting welcomed the encouraging developments concerning nuclear testing, in particular the de facto moratoria of nuclear tests declared by some nuclear states and their commitment to work expeditiously towards achieving a comprehensive test ban.

3 The Special Meeting further welcomed the decision of the Conference on Disarmament to give its Ad Hoc Committee on a Nuclear Test Ban a mandate to negotiate a comprehensive test ban.

4 The urgency for achieving a comprehensive test ban as well as the need for an expeditious means to realize this objective was emphasized by the Special Meeting.

5 The Special Meeting directed its attention to the fact that the consideration on a comprehensive test ban has been underway on three tracks, namely in the Conference on Disarmament, in

*The statement was issued in connection with a Special Meeting of States Parties, held at United Nations Headquarters on 10 August 1993. The text was obtained from the Mission of the Republic of Indonesia.

the Amendment Conference and in the consultations among the nuclear Powers. While some delegations expressed their own preference as to the forum in which a comprehensive test ban should be pursued, there was a general consensus that the work on a comprehensive test ban in the different forums, and especially between the Amendment Conference and the Conference on Disarmament (CD) should be mutually supportive and mutually complementary.

6 There was also a broad consensus among the States Parties that the President of the Amendment Conference should continue his consultations with the States Parties as well as States not parties to the PTB and to hold another Special Meeting early in 1994 in order to review developments and assess the situation regarding a comprehensive nuclear test ban and to examine the feasibility of resuming the work of the Amendment Conference later that year. In this connection it was recalled that pursuant to the decision of the Amendment Conference, further work needed to be undertaken especially that with regard to verification of compliance and possible sanctions against non-compliance.

7 In order to promote universality of a comprehensive test ban, the Special Meeting considered it essential that in pursuing his efforts, the President of the Amendment Conference closely liaise with the Conference on Disarmament and with the five nuclear powers.

8 The Special Meeting agreed that the elements of consensus emerging from this meeting could be used as the basis for formulating a draft resolution on the Amendment Conference in the forthcoming session of the General Assembly.

Recent Books and Articles

Albright, David, Frans Berkhout and William Walker. *World Inventory of Plutonium and Highly Enriched Uranium 1992*. New York, Oxford University Press for the Stockholm International Peace Research Institute (SIPRI), 1993. 246 p.

This SIPRI book presents the comprehensive results of a research project carried out by the three authors—a global inventory of nuclear materials. Their findings include, *inter alia*, inventories of military plutonium and weapon-grade uranium in the nuclear-weapon States; plutonium produced in nuclear power reactors; reprocessing programmes in the nuclear fuel cycle; and material inventories and production capabilities in the threshold States. In a concluding chapter, the authors emphasize the need for an international register of plutonium and highly enriched uranium (HEU).

Allison, Graham, Ashton B. Carter, Steven E. Miller and Philip Zelikow, eds. *Cooperative Denuclearization: From Pledges to Deeds*. Cambridge, Massachusetts, Center for Science and International Affairs, Harvard University, 1993. 293 p. (CSIA Studies in International Security No. 2)

Prepared by a team of 17 scholars, this volume offers an agenda for turning the pledges regarding denuclearization made by the United States and its allies, and the newly independent States of the former Soviet Union, into deeds. The volume covers the following areas: strategic arms control and the non-proliferation Treaty; transport, storage and dismantlement of nuclear weapons; disposition of fissile materials; safety and security for residual nuclear forces; defence and military cooperation; conversion and demobilization; controlling borders and nuclear exports; environmental restoration and research; and current organization of the international community to address cooperative denuclearization and suggestions for a programme of action.

Barnaby, Frank, ed. *Plutonium and Security: The Military Aspects of the Plutonium Economy*. New York, St. Martin's Press, 1992. 296 p.

The books opens with a discussion of the pros and cons of reprocessing plutonium. It then goes on to address such topics as the United States plutonium policy, civil plutonium in Europe and Japan in the 1990s, current third world nuclear programmes and problems, and prospects for the nuclear non-proliferation Treaty at the 1995 Conference. Additionally, the role of IAEA in the reprocessing of plutonium and a global strategy for nuclear arms control are examined.

Blair, Bruce G. *The Logic of Accidental Nuclear War*. Washington, DC, The Brookings Institution, 1993. 364 p.

In an analysis of the danger of inadvertently touching off a nuclear conflict, The *Logic of Accidental Nuclear War* examines the command and control systems of the two major Powers, which were devised in the cold war era. Although that period has ended, new dangers, such as the accidental or unauthorized use of nuclear weapons and the illegal transfer of expertise, nuclear warheads or technology exist. The author explores the roots of these new risks and provides policy recommendations for strengthening control over nuclear forces.

Boyer, Mark A. *International Cooperation and Public Goods: Opportunities for the Western Alliance*. Baltimore, Maryland, The Johns Hopkins University Press, 1993. 176 p.

The author first questions, at a substantive level, the conventional wisdom about the nature of Western alliance burden-sharing; secondly, he examines the burden-sharing issue within a security policy framework that takes into account not only military capability, but also economic, political and even social factors; and thirdly, he presents an argument about why nations can and will cooperate in pursuit of common goals. Focusing on "trade" in public goods and on the Ricardian theory of comparative advantage, the author

attempts to demonstrate that nations specialize in the production of alliance goods—economic, political, or military—for which they possess advantages over other nations.

Bunn, George. *Arms Control by Committee: Managing Negotiations with the Russians.* Stanford, California, Stanford University Press, 1992. 349 p.

The author, a former general counsel of the United States Arms Control and Disarmament Agency and for many years a member of United States delegations to disarmament conferences, contributes in this book to the recorded history of the negotiations on several arms control and disarmament accords, including the limited test ban Treaty (1963), the non-proliferation Treaty (1968), the ABM Treaty (1972) and the INF Treaty (1987).

The author believes that the negotiating lessons from the United States–Soviet experience described in the book are likely to be pertinent to the disarmament process in our post-cold war world.

Burns, Richard Dean, ed. *Encyclopedia of Arms Control and Disarmament.* New York, Charles Scribner's Sons, 1993. 3 vols., 1992.

The three volumes of the *Encyclopedia* make a unique contribution to the field of arms control and disarmament. The first two volumes contain 77 articles covering national and regional dimensions of arms control and disarmament, main themes and institutions, the historical dimensions to 1945, and the activities and achievements since 1945. The third volume provides a vast collection of documents, notably treaties, marking the slow but, nevertheless, growing progress in the field, throughout many centuries of human history.

Campbell, Kurt M., Ashton B. Carter, Steven E. Miller and Charles A. Zraket. *Soviet Nuclear Fission: Control of the Nuclear Arsenal in a Disintegrating Soviet Union.* Cambridge, Massachusetts, Center for Science and International Affairs, Harvard University, 1991. 129 p. (CSIA Studies in International Security No. 1)

This paper surveys the elements and organization of the Soviet nuclear weapons complex—consisting, according to the authors, of 27,000 nuclear weapons—and makes specific recommendations to the United States Government, to the Government of the Russian Federation and the Governments of the other former USSR republics to ensure that the new custodians of Soviet military power preserve the 42-year old "tradition of responsible control of nuclear weapons".

Cimbala, Stephen J. and Sidney R. Waldman, eds. *Controlling and Ending Conflict: Issues before and after the Cold War*. Westport, Connecticut, Greenwood Press, 1992. 285 p.

Prepared before the dissolution of the USSR, the book is a compilation of articles dealing with the cognitive, motivational, and institutional aspects of conflict termination in international politics. It includes essays on deterrence after the cold war, the changing role of nuclear weapons in conflict termination, as well as an analysis of the implications of this new situation for the military strategy of the major Powers.

Collins, Michael J. *Western European Integration: Implications for US Policy and Strategy*. New York, Praeger Publishers, 1992. 141 p.

Western European Integration examines the path to, and future direction of, integration in Western Europe with special emphasis placed on the implications this changing environment has on United States foreign policy and military strategy. The author urges caution in the face of the highly uncertain and rapidly changing political landscape in Europe, though notes that United States policy must inevitably come to terms with the growing power of the European Community. He also stresses the continued viability of NATO as a forum for profitable cooperation among its members, in spite of the end of the cold war.

Cordesman, Anthony H. *After the Storm: The Changing Military Balance in the Middle East*. Boulder, Colorado, Westview Press, 1993. 811 p.

After the Storm is an in-depth analysis of the military forces of the Middle East. The scope of analysis includes the origins of these forces in each Middle Eastern country in addition to current developments in weapons, including biological, chemical and nuclear. The author's attention to regional issues, such as the struggle for control of the Western Sahara and Jordan's growing military and internal security difficulties, provides additional insights into the problems and prospects of this area of the world.

Dupuy, Trevor N., ed. *International Military and Defense Encyclopedia*. New Jersey, Brassey's (US), Inc., 1993. 6 vols.

This is the first English language encyclopedia of international military and defense information. Since the general public has little access to detailed information about many military and defense subjects, the Encyclopedia, containing 786 alphabetically organized articles presented in six volumes, is likely to find a large readership.

A detailed index is presented in volume 6, with a total of nearly 25,000 index terms.

Karp, Regina Cowen, ed. *Security without Nuclear Weapons? Different Perspectives on Non-Nuclear Security*. New York, Oxford University Press for SIPRI, 1992. 296 p.

This SIPRI book examines the question whether the elimination of nuclear weapons is politically feasible and technically practical. The study focuses more on non-nuclear security than on nuclear disarmament. It is to be noted, in this connection, that the contributions to this book were written before the START II Treaty was concluded.

Krause, Keith. *Arms and the State: Patterns of Military Production and Trade*. New York, Cambridge University Press, 1992. 299 p.

The author places the current global arms transfer and production system in a broad historical context. Focusing on the processes of technological innovation and diffusion, he analyses the structure and motive forces that shape that system.

Laurance, Edward J. *The International Arms Trade*. New York, Lexington Books, 1992. 245 p.

The International Arms Trade aims to clarify the changes in international arms trade regimes and systems that have occurred over the last five decades by examining these shifts within an international systems framework. Theory and reality thus interact through the connection of international relations theory and the phenomenon of arms transfers.

Two important objectives of the book are to achieve an improved understanding of the entire international system and to help arms trade policy makers, analysts and evaluators comprehend better the international environment that so drastically affects national arms transfer policies. The causes and implications of changes within arms trade systems are examined, and the conclusions reached are used to determine what arms trading systems of the next century will look like.

Lee, Steven P. *Morality, Prudence, and Nuclear Weapons*. New York, Cambridge University Press, 1993. 418 p.

The author of this study is concerned primarily with "the implications of the condition of mutual vulnerability". With the end of the cold war, a chapter in the history of nuclear deterrence has come to an end, but nuclear weapons, although in reduced numbers, remain and, with them, a policy of nuclear deterrence. Therefore, the author explores once again the logic of deterrence, with a view to answering the question whether there is any nuclear policy that deserves endorsement in terms of both morality and prudence.

McKercher, B.J.C., ed. *Arms Limitation and Disarmament: Restraints on War, 1899-1939*. Westport, Connecticut, Praeger Publishers, 1992. 250 p.

The contributors to *Arms Limitation and Disarmament* explore how and why efforts to restrain war were made in a series of multilateral conferences and in the activities of various anti-war groups during the first four decades of this century, and examine the successes and failures of these endeavours.

Nissani, Moti. *Lives in the Balance: The Cold War and American Politics, 1945-1991*. Carson City, Nevada, Dowser Publishing Group, 1992. 323 p.

Lives in the Balance is a complete, integrated history of the cold war. Diverse topics, including totalitarianism, the consequences of nuclear war, the costs of the arms race and the roots of collective misbehaviour are covered, in addition to a reform strategy and the requirements necessary in order for major policy reform to take place.

Rioux, Jean-François, ed. *Limiting the Proliferation of Weapons: The Role of Supply-Side Strategies*. Ottawa, Canada, Carleton University Press. 1992. 195 p.

This book presents in an updated and expanded version some of the material presented at a conference sponsored by the Canadian Institute for International Peace and Security in Ottawa in 1991. The book, while focusing on proliferation related to nuclear weapons, chemical and biological weapons, and ballistic missiles, also devotes two chapters to the international transfer of conventional weapons. In a final chapter, the editor reaches the conclusion that the role of supply-side strategies is limited and that they are not likely to be as a major component of future international peace and security arrangements.

Roche, Douglas. *A Bargain for Humanity: Global Security by 2000*. Alberta, Canada, The University of Alberta Press, 1993. 189 p.

In examining the past and present of militarism and exploring the idea that there is currently a trend away from militarism, *A Bargain for Humanity* discusses the path towards a human world order. The author contends that the

1992 Earth Summit was a defining moment for constructing a more humanitarian world order, and he provides ideas for overcoming obstacles to change and a look at his view of a bargain for humanity, which will ensure the survival of the planet.

Rotblat, Joseph, Jack Steinberger, and Bhalchandra Udgaonkar, eds. *A Nuclear-Weapon-Free World: Desirable? Feasible?* Boulder, Colorado, Westview Press, 1993. 228 p.

The 26 contributors to this Pugwash monograph seek to answer two key questions regarding the concept of a nuclear-weapon-free world: Is it desirable? Is it feasible? It is the purpose of the book to stimulate further study and debates in wide sectors of the world community "on the ways and means by which nuclear weapons might eventually be eliminated".

Rueckert, George L. *Global Double Zero: The INF Treaty from Its Origins to Implementation.* Westport, Connecticut, Greenwood Press, 1993. 230 p.

The author of this book, a former high officer in the United States State Department, participated in the INF negotiations and worked on INF ratification issues in ACDA. The book focuses on the main elements affecting the negotiations, content, ratification and implementation of the Treaty. The preface and conclusion contain reflections and observations on how the INF has contributed to altering dramatically the shape of East-West relations.

Seminario de Investigación para la Paz, Gobierno de Aragón, *América Latina y Nuevos Conceptos de Seguridad.* Zaragoza, Spain, 1992. 383 p. (Colección "Actas" 21)

Beginning with a discussion of issues related to Latin American security, the contributors to this volume touch on such topics as democracy and security in Latin America, the drug trade, the transition from military to civilian Government, the relationship of the military to society, and the relationship of Latin America to countries beyond the region.

The second part of the book focuses on new concepts of security, discussed in politico-military terms in chapters dealing with with Spain and Austria, and in non-military terms in a chapter dealing with foreigners and human rights in Europe.

Seminario de Investigación para la Paz, Gobierno de Aragón *El Magreb y Una Nueva Cultura de la Paz*. Zaragoza, Spain, 1993. 398 p. (Colección "Actas" 23)

El Magreb presents an analysis of the political and socio-economic realities of Northern Africa. The Magreb's relation to the Mediterranean countries is also discussed, including European perceptions of threat from the Magreb, control of the arms trade, and possible confidence-building measures. In addition, the volume examines "a new culture of peace", looking at, among a number of issues, the role of the United Nations in conflict prevention.

Tritten, James J. and Paul N. Stockton, eds. *Reconstituting America's Defense: The New US National Security Strategy*. New York, Praeger Publishers. 1992. 178 p.

This volume of collected works, with many of the articles contributed by scholars at the United States Navy Postgraduate School, discusses the transformation of American national security and military strategy in the post–cold war era. The work itself contains articles which discuss such varied issues as the future of United States intelligence policy, naval strategy, nuclear targeting, and the future role of United States conventional forces in Europe.

Weiss, Thomas G., ed. *Collective Security in a Changing World*. Boulder, Colorado, Lynne Rienner Publishers, Inc. 1993. 232 p.

This World Peace Foundation Study was commissioned with the goal of assessing the prospect for improving collective action to maintain international peace and security in the post–cold war world. In the whole, the book presents a positive case for collective security and for collective action to deal with international disputes. In fact a main conclusion

of the book is that collective security "endures as a symbol that enough organization exists or can be put together to coerce ... offenders of the public order to halt their violations".

Zisk, Kimberly Marten. *Engaging the Enemy: Organization Theory and Soviet Military Innovation, 1955-1991*. Princeton, New Jersey, Princeton University Press, 1993 286 p.

Using new insights from organization theory, *Engaging the Enemy* shows that a "doctrine race" existed along with the arms competition between the East and West during the years of the cold war. Zisk examines Soviet military doctrine, proving it to be much more innovative than previously thought by Western analysts. Evidence is drawn from interviews with retired Soviet General Staff officers, civilian defence experts and newly declassified Soviet military journals.

Further Publications

Disarmament is unable to publish summaries of all books and articles sent to the Editor. The following is a list of items received recently.

Asian Strategic Review 1991–92. New Delhi, India, Institute for Defence Studies and Analyses, 1992. 339 p.

Aspin, Les and William Dickinson. *Defense for a New Era: Lessons of the Persian Gulf War*. Washington, Brassey's (United States), Inc., 1992. 93 p.

Boulding, Elise, ed. *New Agendas for Peace Research: Conflict and Security Reexamined*. Boulder and London, Lynne Rienner Publishers, 1992. 199 p.

Brown, J.F. *Nationalism, Democracy and Security in the Balkans*. Brookfield, Vermont, Dartmouth Publishing Company, 1992. 205 p. (RAND Research Study)

Chace, James. *The Consequences of the Peace: The New Internationalism and American Foreign Policy*. The Twentieth Century Fund Book, New York, Oxford University Press, 1992. 221 p.

Chafetz, Glenn R. *Gorbachev, Reform, and the Brezhnev Doctrine: Soviet Policy Toward Eastern Europe, 1985–1990*. Westport, Connecticut, Praeger Publishers, 1993. 156 p.

Crone, Hugh D. *Banning Chemical Weapons*. New York, Cambridge University Press, 1992. 122 p.

Dauber, Cori Elizabeth. *Cold War Analytical Structures and the Post Post-War World: A Critique of Deterrence Theory*. Westport, Connecticut, Praeger Publishers, 1993. 207 p.

Decaux, Emmanuel. *Sécurité et coopération en Europe: Les textes officiels du processus de Helsinki (1973–1992).* Paris, France, La Documentation Française, 1992. 458 p.

Ferencz, Benjamin B., ed. *World Security for the 21st Century: Challenges and Solutions.* White Plains, New York, The Pace Peace Center, Pace Law School, 1991. 228 p.

Goodby, James E. and Benoit Morel, eds. *The Limited Partnership: Building a Russian–US Security Community.* New York, Oxford University Press, 1993. 317 p.

Gray, Colin S. *Weapons Don't Make War: Policy, Strategy, and Military Technology.* Lawrence, Kansas, University Press of Kansas, 1993. 236 p.

Hanson, Jim. *The Decline of the American Empire.* Westport, Connecticut, Praeger Publishers, 1993. 207 p.

Henningham, Stephen. *France and the South Pacific: A Contemporary History.* North Sydney, Australia, Allen and Unwin, 1992. 292 p.

Herby, Peter. *The Chemical Weapons Convention and Arms Control in the Middle East.* Oslo, Norway, International Peace Research Institute (PRIO), 1992. 127 p.

Honig, Jan Willem. *Defense Policy in the North Atlantic Alliance: The Case of the Netherlands.* Westport, Connecticut, Praeger Publishers, 1993. 263 p.

Jalonen, Olli-Pekka, ed. *Approaches to European Security in the 1990s.* Tampere, Finland, Tampere Peace Research Institute, 1993. 163 p. (Research Report No. 49)

Labatut, Bernard. *Renaissance d'une puissance? Politique de Défense et Réforme Militaire dans l'Espagne Démocratique.* Paris, France, Fondation pour les études de défense nationale, 1993. 375 p.

Mataija, Steven and J.Marshall Beier, eds. *Multilateral Verification and the Post-Gulf Environment: Learning from the UNSCOM Experience*. Toronto, Canada, Centre for International and Strategic Studies, York University, 1992. 204 p. (Proceedings of the Ninth Annual Ottawa Verification Symposium, held in Montebello, Quebec, 11–14 March 1992)

Miller, Robert, ed. *Aid as Peacemaker: Canadian Development Assistance and Third World Conflict*. Ottawa, Canada, Carleton University Press, 1992. 210 p.

Paye, Olivier. *L'ONU et la sécurité internationale*. Bruxelles, Institut européen de recherche et d'information sur la paix et la sécurité (GRIP), 1992. 61 p.

Peters, John E. *The US Military: Ready for the New World Order?* Westport, Connecticut, Greenwood Press, 1993. 176 p.

Platt, Alan, ed. *Arms Control and Confidence Building in the Middle East*. Washington, DC. United States Institute of Peace Press, 1992. 136 p.

Poole, J.B. and R. Guthrie. *Verification Report 1992: Yearbook on Arms Control and Environmental Agreements*. London, Verification Technology Information Centre (VERTIC), 1992. 372 p.

Raskin, Marcus G. *Abolishing the War System: The Disarmament and International Law Project of the Institute for Policy Studies and the Lawyers Committee on Nuclear Policy*. Northampton, Massachusetts, Aletheia Press, 1992. 129 p.

Rogalski, Michel. *Désarmement et "dividendes de la paix"*. Paris, France, La Documentation Française, 1992. 56 p. (Collection "Problèmes politiques et sociaux" N°. 689)

Stahl, Shelley A. and Geoffrey Kemp, eds. *Arms Control and Weapons Proliferation in the Middle East and South*

Asia. New York, St. Martin's Press, in association with The Carnegie Endowment for International Peace, 1992. 248 p.

Warusfel, Bertrand. *Industrie, Technologie et Défense*. Paris, France, La Documentation Française, 1993. 364 p.

Winnefeld, James A., and Dana J.Johnson. *Joint Air Operations: Pursuit of Unity in Command and Control, 1942–1991*. Annapolis, Maryland, Naval Institute Press, 1993. 219 p. (RAND Research Study)

Wulf, Herbert, ed. *Arms Industry Limited*. New York, Oxford University Press, 1993. 415 p.

Other Recent United Nations Publications on Disarmament

Office for Disarmament Affairs

Books*

The United Nations Disarmament Yearbook
Vol. 17: 1992
(Sales No. E.93.IX.1)

Status of Multilateral Arms Regulation and Disarmament Agreements, 4th edition: 1992, Vols. 1 and 2
(Sales No. E.93.IX.11)

Studies**

Study on Ways and Means of Promoting Transparency in International Transfers of Conventional Arms
(Sales No. E.93.IX.6)

Potential Uses of Military-Related Resources for Protection of the Environment
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Number 13: *National Security and Confidence-building in the Asia-Pacific Region*
(Sales No. E.93.IX.9)

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Research Reports

Economic Aspects of Disarmament: Disarmament as an Investment Process/Aspects économiques du désarmement: Le désarmement en tant qu'investissement,by Keith Hartley, 1993 (Sales No. GV.E/F.93.0.3)

The Chemistry of Regime Formation: Explaining International Cooperation for a Comprehensive Ban on Chemical Weapons, by Thomas Bernauer, 1993, published for UNIDIR by Dartmouth (Aldershot)

Conference of Research Institutes in the Middle East, Proceedings of the Cairo Conference, 18-19 April 1993, by Chantal de Jonge Oudraat, ed., 1993 (Sales No. GV.E.93.0.7)

Research Papers

No. 16—*Regional Security and Confidence-building Processes: The Case of Southern Africa in the 1990s*, by Solomon M. Nkiwane, 1993 (Sales No. GV.E.93.0.6)

No. 17—*Technical Problems in the Verification of a Ban on Space Weapons*, by Stanislav Rodionov, 1993 (Sales No. GV.E.93.0.12)

No. 18—*Index to the Chemical Weapons Convention*, by A. Walter Dorn, 1993 (Sales No. GV.E.93.0.13)

No. 19—*Migration and Population Change in Europe*, by John Salt, 1993 (Sales No. GV.E.93.0.14)

No. 20—*La sécurité européene dans les années 90, défis et perspectives. La dimension écologique*, by Jean-Daniel Claval, 1993 (Sales No. GV.F.93.0.15)

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Defensive Security in Regions Other Than Europe
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Documentation Relating to Disarmament

Protocol to the July 1991 START Treaty
Lisbon, 23 May 1992

Permanent Five Interim Guidelines Related to Weapons of Mass Destruction
29 May 1992

Final Document of the Extraordinary Conference of the States Parties to the CFE Treaty
Oslo, 5 June 1992

Joint United States–Russian Statements
Washington, 17 June 1992

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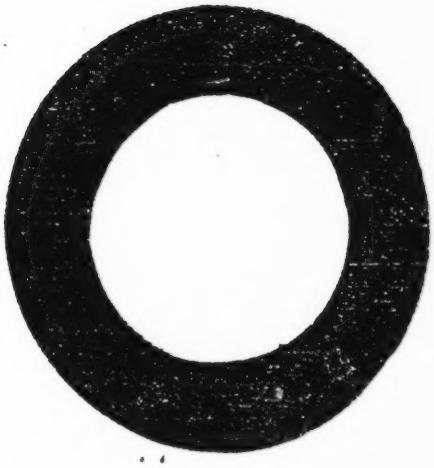

Acronyms

ABACC	Brazilian-Argentine Agency for Accounting and Control of Nuclear Materials
AFCONE	African Commission on Nuclear Energy
AFRA	African Regional Cooperative Agreement
ALCM	air-launched cruise missile
ANC	African National Congress
ARCAL	Latin American Regional Arrangement
BW	biological weapons
COCOM	Coordinating Committee for Multilateral Export Controls
CSCE	Conference on Security and Cooperation in Europe
CTB	comprehensive test ban
CTBT	comprehensive test-ban treaty
CW	chemical weapons
DPRK	Democratic People's Republic of Korea
EURATOM	European Atomic Energy Community
G-7	Group of Seven
HEU	highly enriched uranium
ICBM	intercontinental ballistic missile
INF	bilateral (United States–Russian) Treaty on the Elimination of Their Intermediate-Range and Shorter-Range Missiles
LTBT	limited test-ban Treaty (also known as PTBT)
MERCOSUL	Common Market of the South (Brazilian form)
MERCOSUR	Common Market of the South (Acronym in Spanish)
MIRV	multiple independently targetable re-entry vehicle
MTCR	Missile Technology Control Regime

NATO	North Atlantic Treaty Organization
NGO	non-governmental organization
NIEO	New International Economic Order
NPT	nuclear non-proliferation Treaty
NWFZ	nuclear-weapon-free zone
OAU	Organization of African Unity
OPANAL	Organization for the Prohibition of Nuclear Weapons in Latin America and the Caribbean
PAC	Pan-Africanist Congress
PTB	partial test ban
PTBT	partial test-ban Treaty (also known as LTBT)
SCCC	Common System of Accounting and Control of Nuclear Materials
SLBM	submarine-launched ballistic missile
SSOD-I	first special session of the General Assembly devoted to disarmament
START	strategic arms reduction Treaty
UNDP	United Nations Development Programme
UNEP	United Nations Environment Programme
UNIDIR	United Nations Institute for Disarmament Research
WHO	World Health Organization

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